



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 173581**

**TO: Patrick S Riggins**  
**Location: REM-2D60&270**  
**Art Unit: 1633**  
**December 8, 2005**

**Case Serial Number: 10/721532**

**From: P. Sheppard**  
**Location: Remsen Building**  
**Phone: (571) 272-2529**

**sheppard@uspto.gov**

### **Search Notes**

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STIC-Biotech/ChemLib

173581

From: Chan, Christina  
Sent: Tuesday, December 06, 2005 2:53 PM  
To: Riggins, Patrick S.; STIC-Biotech/ChemLib  
Subject: RE: 10721532

~~Please rush. Thanks Chris~~

Chris Chan  
TC 1600 New Hire Training Coordinator and SPE 1644  
(571)-272-0841  
Remsen, 3E89

-----Original Message-----

From: Riggins, Patrick S.  
Sent: Tuesday, December 06, 2005 2:49 PM  
To: Chan, Christina  
Subject: 10721532

Chris could you please approve this search as RUSH. It's a case just transferred to me that has an old filing date and old effective filing date.

Thank you  
Pat Riggins

Please search the structure found in claim 18.  
The effective filing date is 11/97

Thank you  
Patrick Riggins  
Examiner  
Art Unit 1633  
REM 2D60  
(571) 272-6102

\*\*\*\*\*

Searcher: \_\_\_\_\_  
Searcher Phone: \_\_\_\_\_  
Date Searcher Picked up: \_\_\_\_\_  
Date completed: \_\_\_\_\_  
Searcher Prep Time: \_\_\_\_\_  
Online Time: \_\_\_\_\_

\*\*\*\*\*

Type of Search  
NA# \_\_\_\_\_ AA# \_\_\_\_\_  
S/L: \_\_\_\_\_ Oligomer: \_\_\_\_\_  
Encode/Transl: \_\_\_\_\_  
Structure #: \_\_\_\_\_ Text: \_\_\_\_\_  
Inventor: \_\_\_\_\_ Litigation: \_\_\_\_\_

\*\*\*\*\*

Vendors and cost where applicable  
STN: \_\_\_\_\_  
DIALOG: \_\_\_\_\_  
QUESTEL/ORBIT: \_\_\_\_\_  
LEXIS/NEXIS: \_\_\_\_\_  
SEQUENCE SYSTEM: \_\_\_\_\_  
WWW/Internet: \_\_\_\_\_  
Other (Specify): \_\_\_\_\_

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 17:19:29 ON 08 DEC 2005
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FILE COVERS 1907 - 8 Dec 2005 VOL 143 ISS 24
FILE LAST UPDATED: 7 Dec 2005 (20051207/ED)
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New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=>
=>
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```
=> d stat que
L1 STR
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C^^G2^^N^^G1^^N
5 1 2 3 4
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```
REP G1=(1-10) CH2
REP G2=(7-19) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5
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L3 STR
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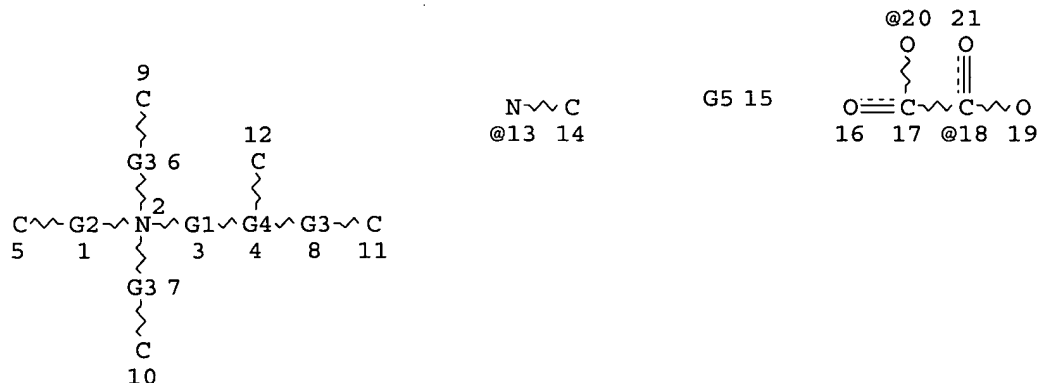
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DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 6
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STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3  
 L17 STR



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REP G2=(7-19) C

REP G3=(0-5) C

VAR G4=NH/13

VAR G5=X/P/S/OH/20/18

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17

L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19

L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=&lt;DECEMBER 1, 1997

=&gt;

=&gt;

=&gt; d ibib abs hitstr l21 1-46

L21 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:158051 HCAPLUS

DOCUMENT NUMBER: 128:275730

TITLE: Anion-exchange extraction of doubly charged anions  
 with solutions of higher quaternary ammonium salts

AUTHOR(S): Rakhman'ko, E. M.; Gulevich, A. L.; Podterov, A. P.;  
 Sloboda, N. A.; Tsvirko, G. A.; Senin, P. V.

CORPORATE SOURCE: Beloruss. Gos. Univ., Belarus

SOURCE: Vestsi Akademii Navuk Belarusi, Seryya Khimichnykh  
 Navuk (1997), (4), 9-14

CODEN: VAKNEK; ISSN: 0002-3590

PUBLISHER: Belaruskaya Navuka

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The effect of cation nature of the higher quaternary ammonium salt (QAS)  
 and neutral transmitter of trifluoroacetyl derivative type on anion-exchange  
 extraction of carbonate-, sulfate- and oxalate-anions was studied in the system

of toluene solution of the extractant-water solution of the salt. Charge distribution on atoms of the anions extracted and extractants as well as their interat. distances were calculated by quantum chemical method. A correlation

was

considered of extraction ability of QAS cation and extractability of the bivalent anion with geometric parameters of these particles and charge distribution on their atoms. The data obtained give a possibility to suggest a structure of ion assoc. formed by the bivalent anions and QAS cations.

IT 148942-79-4, Methylpentadecylethylenediammonium  
2,4-dinitrophenolate, processes 205496-97-5, processes  
205497-01-4 205497-02-5

RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(anion-exchange extraction of doubly charged anions with solns. of higher  
quaternary ammonium salts)

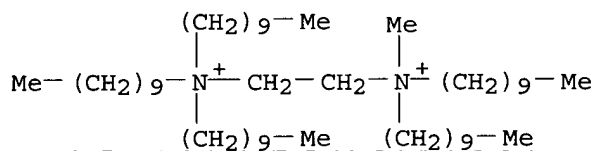
RN 148942-79-4 HCAPLUS

CN 1,2-Ethanediaminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, salt with  
2,4-dinitrophenol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 120003-70-5

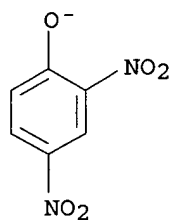
CMF C53 H112 N2



CM 2

CRN 20350-26-9

CMF C6 H3 N2 O5



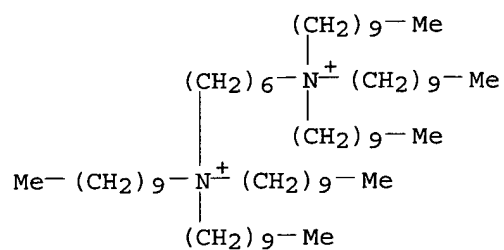
RN 205496-97-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexakis(decyl)-, salt with  
2,4-dinitrophenol (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 205496-96-4

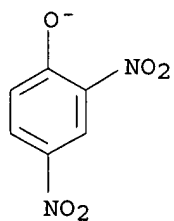
CMF C66 H138 N2



CM 2

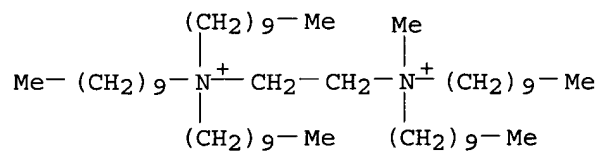
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RN 205497-01-4 HCAPLUS

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(9CI) (CA INDEX NAME)

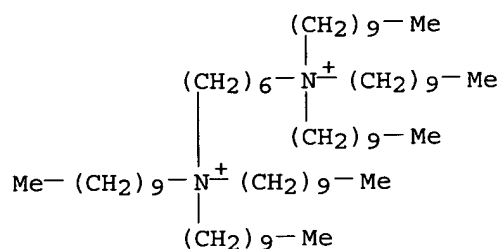


● 2 Cl<sup>-</sup>

RN 205497-02-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexakis(decyl)-, dichloride (9CI) (CA  
INDEX NAME)



● 2 Cl<sup>-</sup>

L21 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:752808 HCAPLUS

DOCUMENT NUMBER: 128:53227

TITLE: Cationic lipids for transfection of negatively charged or neutral molecules into living cells

INVENTOR(S): Haces, Alberto

PATENT ASSIGNEE(S): Haces, Alberto, USA

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9742819	A1	19971120	WO 1997-US9093	19970509 <--
W: CA, IL, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2289078	AA	19971120	CA 1997-2289078	19970509 <--
PRIORITY APPLN. INFO.:			US 1996-17298P	P 19960513
			WO 1997-US9093	W 19970509

OTHER SOURCE(S): MARPAT 128:53227

AB Cationic lipids R<sub>1</sub>R<sub>2</sub>(R<sub>3</sub>)iN<sup>+</sup>(CH<sub>2</sub>)<sub>m</sub>Xp(CH<sub>2</sub>)<sub>n</sub>N<sup>+</sup>R<sub>1</sub>'R<sub>2</sub>'(R<sub>3</sub>')i 2Y<sup>-</sup> [X = O, S(O), CH<sub>2</sub>; Y = anion; R<sub>1</sub>, R<sub>1</sub>' = C<sub>1</sub>-18 aliphatic; R<sub>2</sub>, R<sub>2</sub>' = H, C<sub>1</sub>-18 alkyl, cyanoethyl, aminopropyl, aminobutyl, C<sub>2</sub>-4 alkyl guanidinium or amidinium, etc.; R<sub>3</sub>, R<sub>3</sub>' = C<sub>1</sub>-6 alkyl, AcOCH<sub>2</sub>CH<sub>2</sub>, CH<sub>2</sub>CO<sub>2</sub>Et; m, n = 1-3; i, p = 0, 1] can be used alone or in mixts. with other liposome-forming compds. to prepare lipid aggregates to serve as carriers for transfection of nucleic acids or delivery of other neg. charged macromols. into animal cells and are therefore useful in gene therapy. Some of these lipids are also useful as detergents for cleaning and as vehicles in cosmetics. Thus, a mixture of β-galactosidase DNA and N,N,N',N'-guanidinopropyloctadecyloxybis-2,2'-ethylamine-HI (preparation given) was incubated with primary human epidermal keratinocytes for 4 h. After medium replacement and addnl. incubation for 48 h, 50% of the cells tested pos. for β-galactosidase.

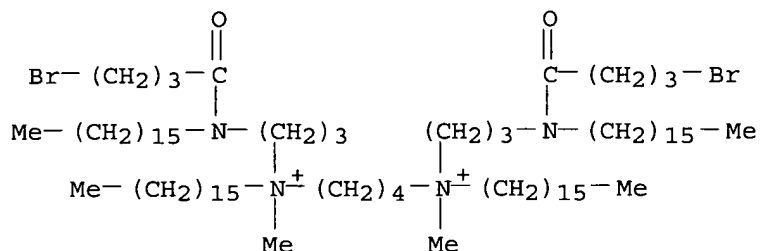
IT 199805-38-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(cationic lipids for transfection of neg. charged or neutral mols. into living cells)

RN 199805-38-4 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[3-[(4-bromo-1-oxobutyl)hexadecylamino]propyl]-N,N'-dihexadecyl-N,N'-dimethyl- (9CI) (CA INDEX NAME)

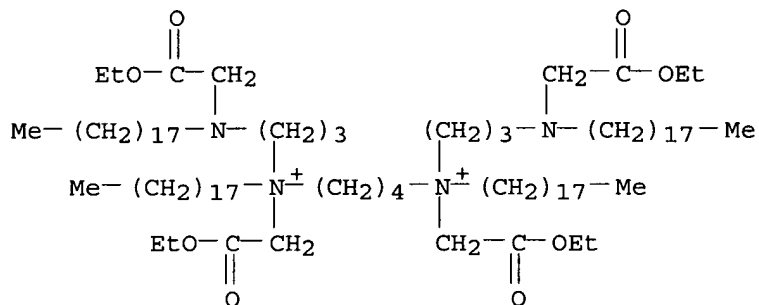


IT 199805-09-9P 199805-10-2P 199805-11-3P  
 199805-13-5P 199805-14-6P 199805-15-7P  
 199805-16-8P 199805-18-0P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (cationic lipids for transfection of neg. charged or neutral mols. into living cells)

RN 199805-09-9 HCAPLUS

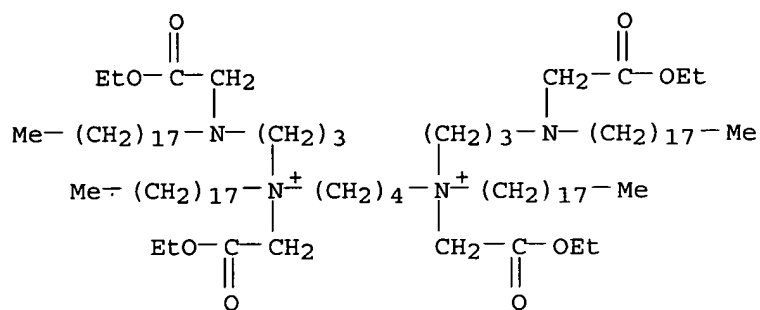
CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl<sup>-</sup>

RN 199805-10-2 HCAPLUS

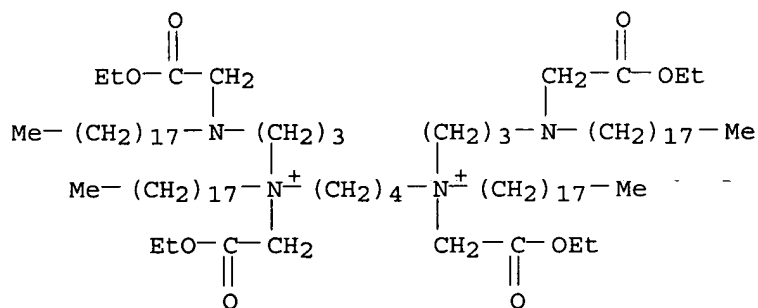
CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br<sup>-</sup>

RN 199805-11-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, diiodide (9CI) (CA INDEX NAME)



●2 I<sup>-</sup>

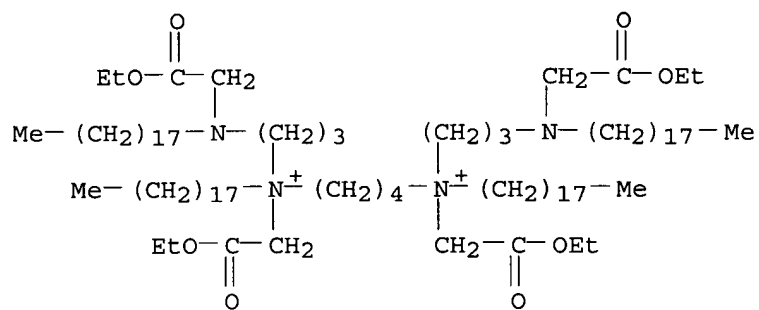
RN 199805-13-5 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, diacetate (9CI) (CA INDEX NAME)

CM 1

CRN 199805-12-4

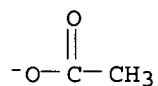
CMF C98 H196 N4 O8



CM 2

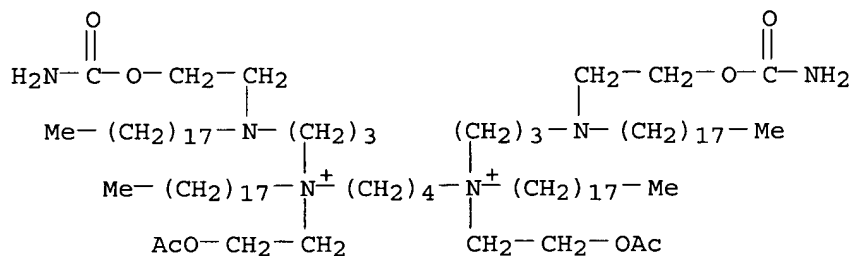
CRN 71-50-1

CMF C2 H3 O2



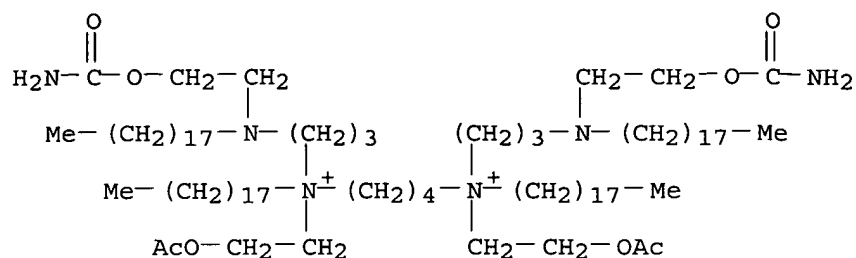
RN 199805-14-6 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[[2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, dichloride (9CI) (CA INDEX NAME)

● 2 Cl<sup>-</sup>

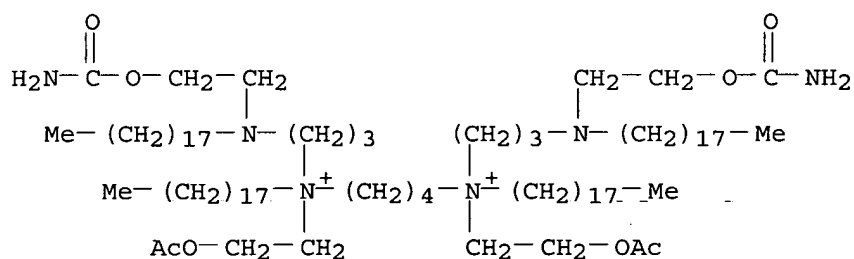
RN 199805-15-7 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[[2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, dibromide (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 199805-16-8 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[[2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, diiodide (9CI) (CA INDEX NAME)

● 2 I<sup>-</sup>

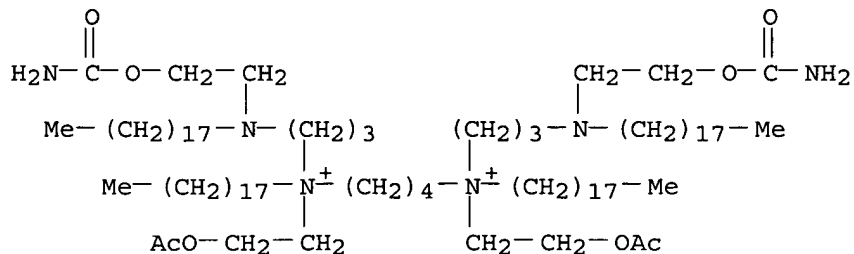
RN 199805-18-0 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[[2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, diacetate (9CI) (CA INDEX NAME)

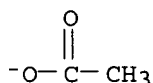
CM 1

CRN 199805-17-9

CMF C96 H194 N6 O8



CM 2

CRN 71-50-1  
CMF C2 H3 O2

L21 ANSWER 3 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:187253 HCAPLUS

DOCUMENT NUMBER: 126:321461

TITLE: Interaction of water-insoluble quaternary ammonium salts with the hydrated silica surface

AUTHOR(S): Turov, V. V.; Zaporozhets, O. A.; Nadzhafova, O. Yu.; Sukhan, V. V.

CORPORATE SOURCE: Inst. Khim. Poverkhn., NAN Ukr., Kiev, 252039, Ukraine

SOURCE: Teoreticheskaya i Eksperimental'naya Khimiya (1996), 32(6), 376-379

CODEN: TEKHA4; ISSN: 0497-2627

PUBLISHER: Institut Fizicheskoi Khimii im. L. V. Pisarzhevskogo AN Ukrainy

DOCUMENT TYPE: Journal

LANGUAGE: Russian

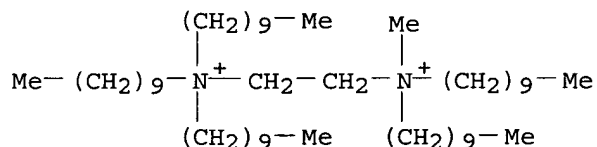
AB Interaction of the hydrated surface of silica with high-mol. weight quaternary ammonium salts (QAS) was studied using <sup>1</sup>H NMR of the adsorbed mols. in the conditions of liquid phase freeze-out. The QAS differed in the structure of the hydrophilic part of the mol. and in the distance between the nitrogen atoms. The approach permits not only to study changes in the hydration shell of adsorbents upon adsorption of complex. organic mols with several types of reaction centers but also to estimate the efficacy of the adsorption.

IT 189328-18-5 189328-19-6

RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(NMR study of interaction of water-insol. quaternary ammonium salts with hydrated silica surface)

RN 189328-18-5 HCAPLUS

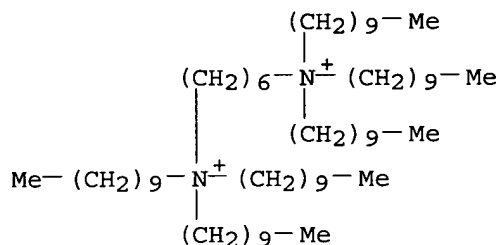
CN 1,2-Ethanediaminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, diiodide (9CI) (CA INDEX NAME)

● 2 I<sup>-</sup>

RN 189328-19-6 HCAPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexakis(decyl)-, diiodide (9CI) (CA

INDEX NAME)

●2 I<sup>-</sup>

L21 ANSWER 4 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:613526 HCAPLUS

DOCUMENT NUMBER: 125:277334

TITLE: ToF-SIMS study of alternate polyelectrolyte thin films: chemical surface characterization and molecular secondary ions sampling depth

AUTHOR(S): Delcorte, A.; Bertrand, P.; Arys, X.; Jonas, A.; Wischerhoff, E.; Mayer, B.; Laschewsky, A.

CORPORATE SOURCE: Unite Physico-Chimie Physique Materiaux, Universite Catholique Louvain, Louvain-la-Neuve, B-1348, Belg.

SOURCE: Surface Science (1996), 366(1), 149-165

CODEN: SUSCAS; ISSN: 0039-6028

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Multilayered assemblies of alternate polyelectrolytes were synthesized by dipping charged silicon wafers successively into solns. of polyelectrolytes of opposite charge. Three types of assemblies and several thicknesses were investigated by time-of-flight secondary ion mass spectrometry (ToF-SIMS), in combination with other characterization techniques (XPS, x-ray reflectivity (XRR) and atomic force microscopy (AFM)). The sensitivity of ToF-SIMS to the extreme surface provides a powerful tool to verify the chemical structure, as well as the spatial homogeneity of the topmost layers. Monolayers of complex polyelectrolytes differing only by the end of the pendant group or by the monomer chain length can be distinguished easily, notwithstanding the interference with the information coming from the underlying layers. The chemical imaging capability of ToF-SIMS allows the identification of the defects and contaminants in the surface layer, as well as the verification of the thickness uniformity at a local scale (.apprx.1 μm). In addition, the proof of a regular build-up is given by the disappearance of the substrate signal (Si<sup>+</sup>) when the number of layers increases. On the other hand, the question of the information depth in ToF-SIMSs, which constitutes an important issue for the characterization of very thin films, is addressed. The attenuation depth in the organic film is determined for atomic and mol. secondary ions (Si<sup>+</sup>, SiOH<sup>+</sup>, SiO<sub>3</sub>H<sup>-</sup>), mainly by correlation with XPS and XRR data. The decay of the mean emission depth when the ion size increases makes the largest mol. ions the most surface sensitive.

IT 182972-05-0

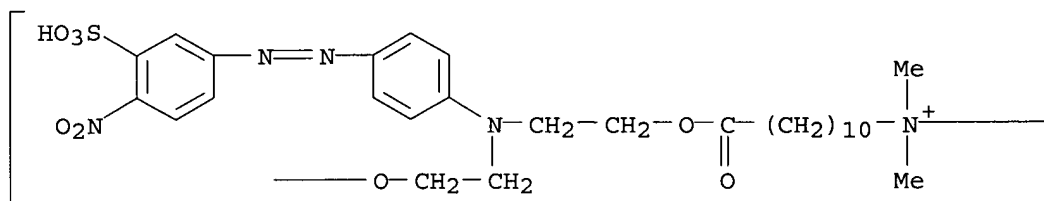
RL: PRP (Properties)

(secondary ion emission processes in chemical surface characterization of multilayered assemblies of alternate anionic and cationic polyelectrolyte thin films by time-of-flight secondary-ion mass spectrometry)

RN 182972-05-0 HCAPLUS

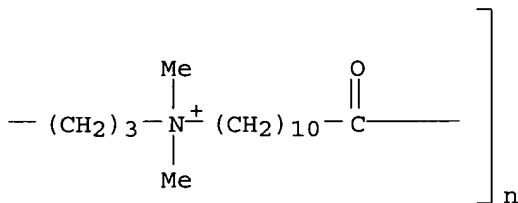
CN Poly[oxy-1,2-ethanediyl[[4-[(4-nitro-3-sulfophenyl)azo]phenyl]imino]-1,2-ethanediyl]oxy(1-oxo-1,11-undecanediyl)(dimethyliminio)-1,3-propanediyl(dimethyliminio)(11-oxo-1,11-undecanediyl)dibromide sodium salt] (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 Br<sup>-</sup>

● Na

PAGE 1-B



L21 ANSWER 5 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:598997 HCAPLUS

DOCUMENT NUMBER: 123:49550

TITLE: Disturbances in rat smooth muscle induced by a substance with fungicide action

AUTHOR(S): Milieva, E.; Kristev, A.; Stoichev, N.; Nikolov, A.; Nikolov, N.

CORPORATE SOURCE: Department of Physics & Biophysics, Medical University, Plovdiv, Bulg.

SOURCE: Journal of Applied Toxicology (1995), 15(3), 219-22

PUBLISHER: CODEN: JJATDK; ISSN: 0260-437X

Wiley



DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The fungicide substance QAS [N,N,N',N'-tetramethyl-N,-N'-di(8,15-dichloropentadeca-5,10-dien)ethylenediamine Me sulfate] has a biphasic effect on the spontaneous elec. and mech. activity of smooth-muscle samples of rat corpus and guinea pig tenia coli. During the first phase of QAS application membrane depolarization and increased spontaneous spike frequency were recorded. The tone of the prepns. (resting tone) increased transiently. Calcium ion-entry blockers did not affect the contractile effect of QAS, but K+-channel blockers and some modulators of the second messenger system abolished or decreased it. During the second phase depolarization increased progressively, spike frequency decreased and the increase in testing tone recorded during the first phase was eliminated. The results reveal that the long-lasting depolarizing effect of QAS (in concentration used for plant protection) probably inactivates the entry of Ca<sup>2+</sup> into the smooth-muscle cells and disturbs Ca<sup>2+</sup> homeostasis.

IT 164533-74-8

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (fungicide toxicity to smooth muscle)

RN 164533-74-8 HCAPLUS

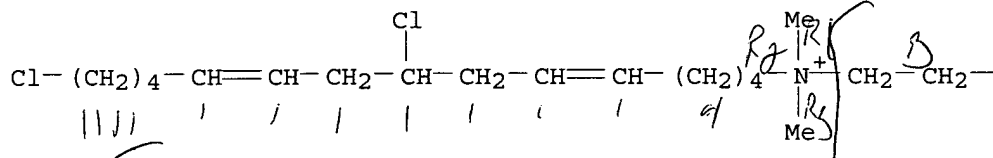
CN 1,2-Ethanediaminium, N,N'-bis(8,15-dichloro-5,10-pentadecadienyl)-  
 N,N,N',N'-tetramethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

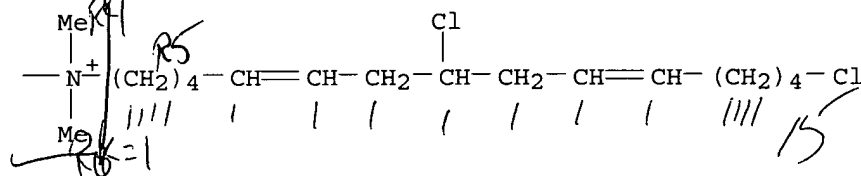
CRN 164533-73-7

CMF C36 H66 Cl4 N2

PAGE 1-A



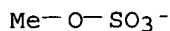
PAGE 1-B



CM 2

CRN 21228-90-0

CMF C H3 O4 S



L21 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1993:503407 HCAPLUS  
 DOCUMENT NUMBER: 119:103407

TITLE: Diammonium salts and disinfectants containing them  
 INVENTOR(S): Ishikawa, Hiroshi; Toyama, Yukio; Tamaoka, Hisashi  
 PATENT ASSIGNEE(S): Otsuka Pharma Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05085992	A2	19930406	JP 1991-248902	19910927 <--
PRIORITY APPLN. INFO.:			JP 1991-248902	19910927

OTHER SOURCE(S): MARPAT 119:103407

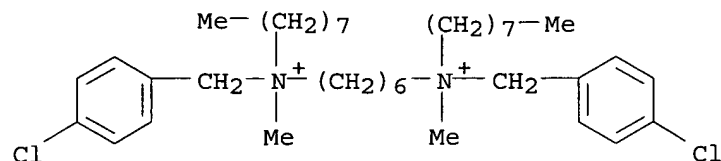
AB [R3CH2N+R1R2AN+R1R2CH2R3]2X- (R1 = substituted Ph; R2 = lower alkyl; R3 = C5-10 alkyl; A = C2-8 alkylene group; X = anion) are useful for disinfectants. Hexanoyl chloride was added dropwise to CH2Cl2-pyridine solution containing hexamethylenediamine at 0° within 20 min and the mixture was stirred at room temperature for 30 min to give 57.6% N,N'-dihexanoylhexamethylenediamide, which was refluxed with LiAlH4 in THF for 4 h, followed by refluxing with EtOH, HCO2H, and HCHO for 30 min to give 61.3% N,N'-dihexyl-N,N'-dimethylhexamethylenediamine (I). I was refluxed with PhCH2Cl in AcOEt for 5 h to give 33.0% N,N'-dimethyl-N,N'-dihexyl-N,N'-dibenzylhexamethylenediammonium dichloride (II). N,N'-dimethyl-N,N'-dioctyl-N,N'-(3,4-dichlorobenzyl)hexamethylenediammonium dichloride inhibited Staphylococcus aureus, Escherichia coli, and Klebsiella pneumoniae with min. inhibitory concns. of 3.13, 12.5, and 12.5 µg/mL, resp., vs. 6.25, 3.13, and ≤1.56 µg/mL, resp., for chlorhexidine glucuronate. II 5, polyoxyethylene nonylphenyl ether 3.75, and H2O to 100 mL were mixed to give a disinfectant.

IT 149358-43-0P 149358-44-1P 149358-48-5P  
 149379-25-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation and bactericidal activity of, for disinfectants)

RN 149358-43-0 HCAPLUS

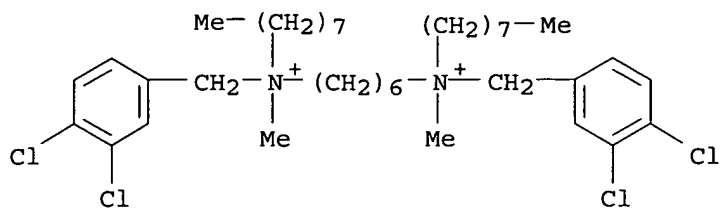
CN 1,6-Hexanediaminium, N,N'-bis[(4-chlorophenyl)methyl]-N,N'-dimethyl-N,N'-dioctyl-, dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

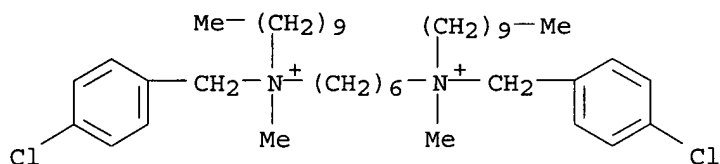
RN 149358-44-1 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[(3,4-dichlorophenyl)methyl]-N,N'-dimethyl-N,N'-dioctyl-, dichloride (9CI) (CA INDEX NAME)



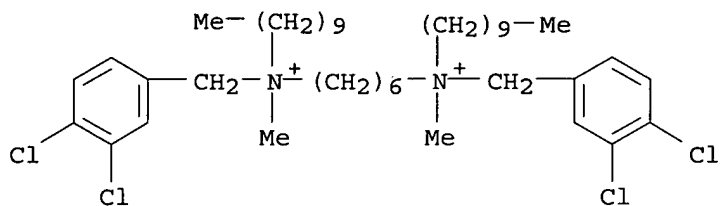
● 2 Cl<sup>-</sup>

RN 149358-48-5 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-bis[(4-chlorophenyl)methyl]-N,N'-didecyl-N,N'-dimethyl-, dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

RN 149379-25-9 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-didecyl-N,N'-bis[(3,4-dichlorophenyl)methyl]-N,N'-dimethyl-, dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

L21 ANSWER 7 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1993:485082 HCAPLUS  
 DOCUMENT NUMBER: 119:85082  
 TITLE: Photometric method for determination of naphthalene disulfonate  
 INVENTOR(S): Gulevich, Aleksandr L.; Snigireva, Natalya M.;  
 Rakhmanko, Evgenij M.  
 PATENT ASSIGNEE(S): Nii fiziko-khimicheskikh problem bruss g univ

SOURCE: im.v.i.lenina, USSR  
 U.S.S.R. From: Izobreteniya 1992, (41), 140.  
 CODEN: URXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Russian  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1774236	A1	19921107	SU 1990-4884772	19901126 <--
PRIORITY APPLN. INFO.:			SU 1990-4884772	19901126

AB In the method, the sample is treated with an extraction agent in an alkaline medium and the aqueous phase is separated and subsequently evaluated by photometry.

To increase the selectivity of the determination, methylpentadecylethylenediammonium 2,4-dinitrophenolate is used as the extraction agent.

IT **148942-79-4**  
 RL: ANST (Analytical study)  
 (in determination of naphthalene disulfonates by photometry)

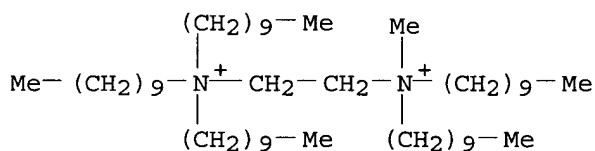
RN 148942-79-4 HCAPLUS

CN 1,2-Ethanediaminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, salt with 2,4-dinitrophenol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 120003-70-5

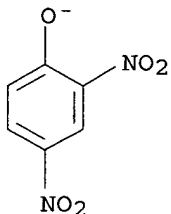
CMF C53 H112 N2



CM 2

CRN 20350-26-9

CMF C6 H3 N2 O5



L21 ANSWER 8 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1991:525985 HCAPLUS  
 DOCUMENT NUMBER: 115:125985

TITLE: Evaluation of new organoclay stationary phases for the separation of ethylbenzene and xylene isomers

AUTHOR(S): Zlatkis, A.; Jiao, J.

CORPORATE SOURCE: Dep. Chem., Univ. Houston, Houston, TX, 77204, USA

SOURCE: Chromatographia (1991), 31(9-10), 457-64  
CODEN: CHRGB7; ISSN: 0009-5893

DOCUMENT TYPE: Journal

LANGUAGE: English

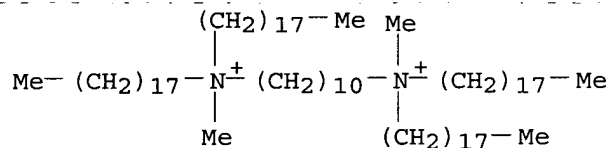
AB Several kinds of Bentonites which have structures similar to Bentone 34 have been tested and compared for the purpose of improving the resolution of ethylbenzene and xylene isomers by gas chromatog. Bentone SD-3 was found to have higher selectivity toward these close-boiling compds. than the well known stationary phase Bentone 34. Modification effects of some conventional stationary phases which represent the whole range of polarity on the chromatog. property of Bentone SD-3 have been investigated and discussed. A number of new organoclays which have different structures of the organic cation in complexes have been synthesized and their properties evaluated for the separation of positional isomers. A simultaneously high-selectivity organoclay for each component in the aromatic mixture of ethylbenzene and xylene isomers, without assistance of conventional stationary phases, has been described.

IT 135926-82-8

RL: ANST (Analytical study)  
(bentonite stationary phases treated by, ethylbenzene and xylene isomer separation by gas chromatog. on)

RN 135926-82-8 HCAPLUS

CN 1,10-Decanediaminium, N,N'-dimethyl-N,N,N',N'-tetraoctadecyl-, chloride (9CI) (CA INDEX NAME)



● Cl<sup>-</sup>

L21 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:513273 HCAPLUS

DOCUMENT NUMBER: 115:113273

TITLE: Phosphonium bactericides for food

INVENTOR(S): Legros, Alain

PATENT ASSIGNEE(S): Fabricom Air Conditioning S. A., Belg.

SOURCE: PCT Int. Appl., 58 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

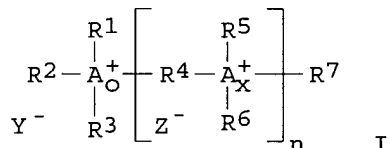
LANGUAGE: French

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9105003	A1	19910418	WO 1990-BE56	19901009 <--
W: AU, CA, JP, NO, US				

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE  
 BE 1003510 A5 19920407 BE 1989-1081 19891009 <--  
 AU 9064158 A1 19910428 AU 1990-64158 19901009 <--  
 EP 495802 A1 19920729 EP 1990-914105 19901009 <--  
 R: BE, DE, ES, FR, IT  
 ES 2074169 T3 19950901 ES 1990-914486 19901009 <--  
 PRIORITY APPLN. INFO.: BE 1989-1081 A 19891009  
 WO 1990-BE56 A 19901009  
 GI

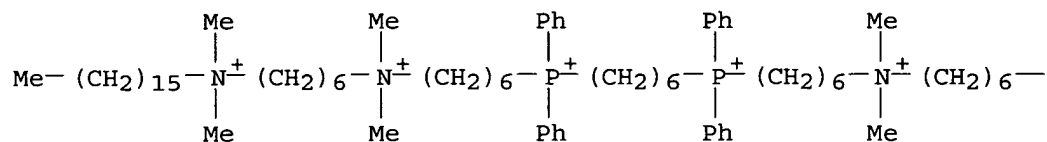


AB The preparation of quaternary phosphonium compds. [I;  $n \geq 2$ ,  $x = 1$  to  $n$ ,  $A = N$  or  $P$  with at least one non-terminal  $P$ ;  $R^2, R^7 =$  (substituted) alkyl or alkenyl;  $R^1, R^3, R^5, R^6 =$  (substituted)  $C_{\leq 22}$  alkyl or alkenyl;  $R^4 = C_{\leq 16}$  alkyl, optionally bridge by  $S$ - and/or  $O$ -containing group;  $Y, Z =$  counterions, preferably halide] for use as bactericides for food or drink are described. 1,6-bis-(Diphenylphosphine) hexane in  $CH_2Cl_2$  and 1,3-dibromopropane were incubated at  $135^\circ$  under Ar for 3 h. The reaction product was incubated with a 2-fold molar excess of bromohexadecane under Ar at  $140^\circ$  for 4 h to yield compound B1 (I;  $n = 3$ ;  $x = 3$ ;  $A = P$ ;  $R^2, R^7 = C_{16}H_{33}$ ;  $R^1, R^5 = Ph$ ;  $R^3, R^6 =$  bromophenyl;  $R^4 = C_3H_6$  or  $C_6H_{12}$ ). Suspensions of *Escherichia coli* were exposed to 2 ppm of B1 for 1-15 min. After 15 min the titer of the cultures had dropped to 0.001% of controls. A prior art quaternary ammonium compound A9 reduced the titer to 0.013% of controls. For some bacteria the addition of Cu or Ag at 1 ppm to the compds. of the invention was synergistic.

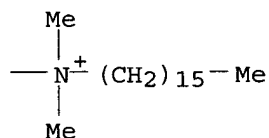
IT 135238-50-5P 135238-51-6P 135238-55-0P  
 135238-59-4P 135238-60-7P  
 RL: PREP (Preparation)  
 (preparation of, as bactericide)

RN 135238-50-5 HCAPLUS  
 CN 7,28-Diazonia-14,21-diphosphoniatetratricontane-1,34-diaminium,  
 N,N'-dihexadecyl-N,N,N',N',7,7,28,28-octamethyl-14,14,21,21-tetraphenyl-,  
 tetrabromide dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

●4 Br<sup>-</sup>●2 Cl<sup>-</sup>

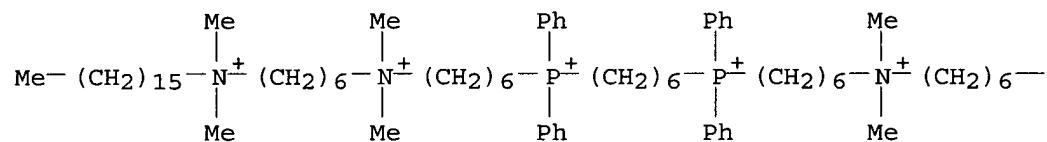
PAGE 1-B



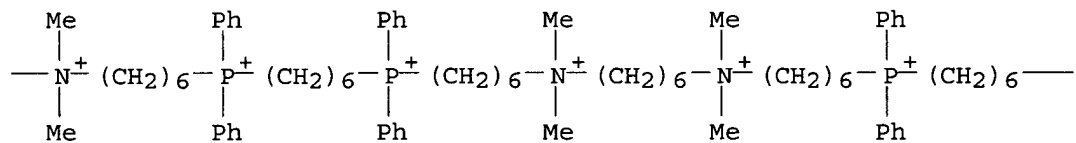
RN 135238-51-6 HCAPLUS

CN 7,28,35,56,63,84-Hexaazonia-14,21,42,49,70,77-hexaphosphonianonacontane-1,90-diaminium, N,N'-dihexadecyl-N,N,N',N',7,7,28,28,35,35,56,56,63,63,84,84-hexadecamethyl-14,14,21,21,42,42,49,49,70,70,77,77-dodecaphenyl-, tetradecabromide (9CI) (CA INDEX NAME)

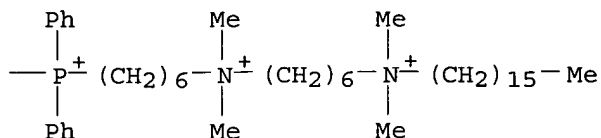
PAGE 1-A

●14 Br<sup>-</sup>

PAGE 1-B



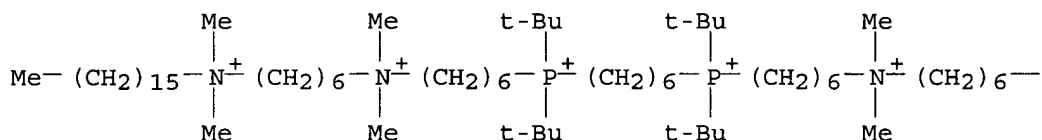
PAGE 1-C



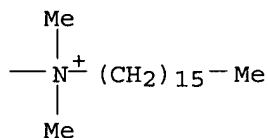
RN 135238-55-0 HCAPLUS

CN 7,28-Diazonia-14,21-diphosphoniatetratriacontane-1,34-diaminium,  
14,14,21,21-tetrakis(1,1-dimethylethyl)-N,N'-dihexadecyl-  
N,N,N',N',7,7,28,28-octamethyl-, hexabromide (9CI) (CA INDEX NAME)

PAGE 1-A

● 6 Br<sup>-</sup>

PAGE 1-B

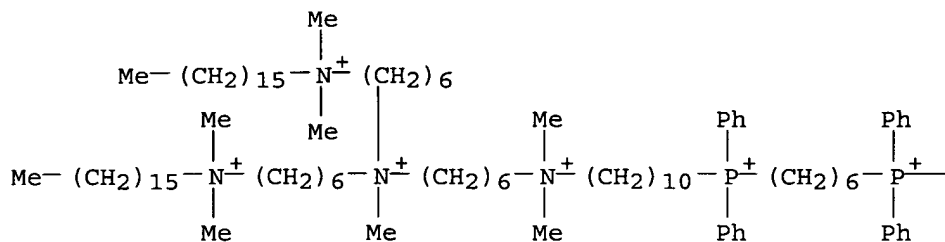


RN 135238-59-4 HCAPLUS

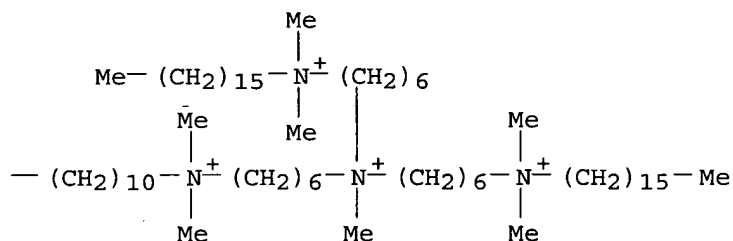
CN 7,14,43,50-Tetraazonia-25,32-diphosphoniahexapentacontane-1,56-diaminium,  
N,N'-dihexadecyl-7,50-bis[6-(hexadecyldimethylammonio)hexyl]-  
N,N,N',N',7,14,14,43,43,50-decamethyl-25,25,32,32-tetraphenyl-, dibromide  
octachloride (9CI) (CA INDEX NAME)



PAGE 1-A

● 2 Br<sup>-</sup>● 8 Cl<sup>-</sup>

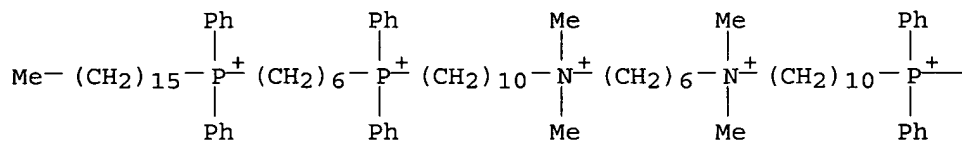
PAGE 1-B



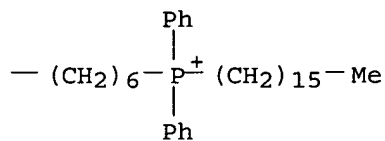
RN 135238-60-7 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[10-[[6-(hexadecyldiphenylphosphonio)hexyl]diphenylphosphonio]decyl]-N,N,N',N'-tetramethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:484893 HCAPLUS

DOCUMENT NUMBER: 111:84893

TITLE: Bisquaternary ammonium salts as phase transfer catalysts

AUTHOR(S): Lissel, Manfred; Feldman, David; Nir, Malka; Rabinovitz, Mordecai

CORPORATE SOURCE: Dep. Org. Chem., Hebrew Univ. Jerusalem, Jerusalem, 91904, Israel

SOURCE: Tetrahedron Letters (1989), 30(13), 1683-6  
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Bis-quaternary ammonium salts were used for the extraction of polyanions and show better extractive abilities than common phase transfer catalysts.

IT 122161-38-0

RL: CAT (Catalyst use); USES (Uses)  
(catalysts, polyanion loading of)

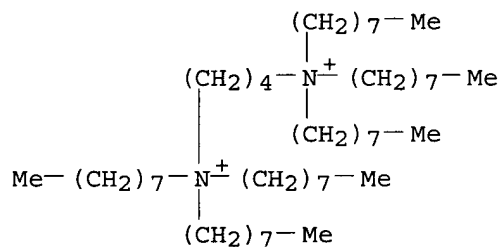
RN 122161-38-0 HCAPLUS

CN 1,4-Butanediaminium, N,N,N,N',N',N'-hexaoctyl-, sulfate (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 122161-37-9

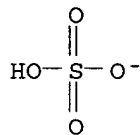
CMF C52 H110 N2



CM 2

CRN 14996-02-2

CMF H O4 S



L21 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:161143 HCAPLUS

DOCUMENT NUMBER: 110:161143

TITLE: Anion exchange extraction of cadmium iodide complexes by bis(quaternary ammonium) salts

AUTHOR(S): Rakhman'ko, E. M.; Tsvirko, G. A.; Gulevich, A. L.;

CORPORATE SOURCE: Leshchev, S. M.  
 SOURCE: BGU, Moscow, USSR  
 Zhurnal Neorganicheskoi Khimii (1989),  
 34(1), 169-72  
 CODEN: ZNOKAQ; ISSN: 0044-457X

DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

AB The extraction of Cd from iodide solns. by mono- and bisquaternary ammonium salts was studied by an intermediate exchange method involving acid dye anions. The resp. exchange consts. were determined The bisquaternary compds. extract Cd as CdI4<sup>2-</sup> with exchange consts. 3 orders of magnitude higher than those for extraction by monoquaternary compds.

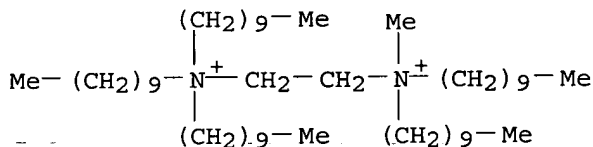
IT 120003-71-6  
 RL: PRP (Properties)  
 (extraction by, of cadmium from aqueous iodide)

RN 120003-71-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N,N,N',N'-penta(decyl)-N'-methyl-, salt with 2,4,6-trinitrophenol (1:2) (9CI) (CA INDEX NAME)

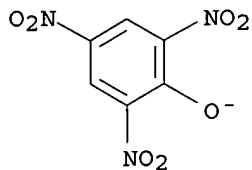
CM 1

CRN 120003-70-5  
 CMF C53 H112 N2



CM 2

CRN 14798-26-6  
 CMF C6 H2 N3 O7



L21 ANSWER 12 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:477262 HCAPLUS

DOCUMENT NUMBER: 107:77262

TITLE: Di-, tri-, tetra-, and pentacationic alkylammonium salts. Ligands designed to prevent the nonspecific electrostatic precipitation of polyanionic, functionalized cyclopentadienyltitanium-substituted heteropolytungstate electron microscopy labels with cationic biomolecules

AUTHOR(S): Keana, John F. W.; Wu, Yexin; Wu, Guanli

CORPORATE SOURCE: Dep. Chem., Univ. Oregon, Eugene, OR, 97403, USA

SOURCE: Journal of Organic Chemistry (1987), 52(12),

2571-6

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 107:77262

AB A number of title ligands were prepared. Of these, only [R<sub>2</sub>N+Me(CH<sub>2</sub>CH<sub>2</sub>N+MeR)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>N+MeR<sub>2</sub>]<sup>+</sup>·4Cl<sup>-</sup> (R = highly oxygenated alkyl group) prevented precipitation during treatment of lysozyme, concanavalin A, and poly-L-lysine with Keggin- and Dawson-type heteropolytungstates.

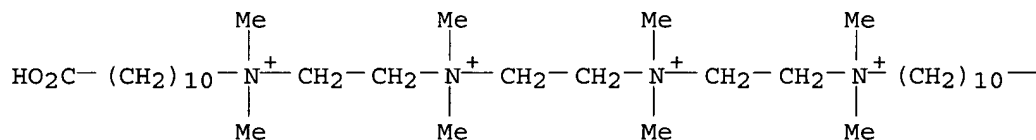
IT 108213-15-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 108213-15-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-bis[2-[(10-carboxydecyl)dimethylammonio]ethyl]-N,N,N',N'-tetramethyl-, tetrachloride (9CI) (CA INDEX NAME)

PAGE 1-A

● 4 Cl<sup>-</sup>

PAGE 1-B

— CO<sub>2</sub>H

L21 ANSWER 13 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:20689 HCAPLUS

DOCUMENT NUMBER: 104:20689

TITLE: Cationic compound dyeing assistants for fibers

INVENTOR(S): Nakao, Katsuaki

PATENT ASSIGNEE(S): Ipposha Oil Industries Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60134080	A2	19850717	JP 1983-238484	19831216 <--
US 4615709	A	19861007	US 1984-682457	19841217 <--
PRIORITY APPLN. INFO.:			JP 1983-238484	A 19831216

AB In dyeing natural fibers, synthetic fibers, or their blends with anionic, direct, reactive, acid, indigo, or vat dyes, colorfastness is improved by

treating the fibers with [RNR2ZNR21R] (2+n)+. (2+n)X-, where Z is C1-8 alkylene group substituted with OH group or (CH2)p[NR1R(CH2)q]n, where p or q is 1-8, n is 0-2, X is a halogen, R1 is C1-4 alkyl or unsatd. alkyl group or its substituted derivative, and R is CH2CH(OH)CH2X or glycidyl group, before or after the dyeing step. Thus, 172 g N,N,N',N'-tetramethyl-1,6-hexamethylenediamine [111-18-2] was treated with 270 g 1,3-dichloro-2-propanol [96-23-1] to give hexamethylenebis(3-chloro-2-hydroxypropyldimethylammonium chloride) (I) [96550-06-0]. A vinal fabric was treated with aqueous 3.2% I for 0.5 min at room temperature, squeezed to

80%

pickup, dried, washed, and dried. The pretreated fabric was dyed with a liquor containing 3% (on fiber weight) Remazol Brilliant Red H-38 for 30 min at 60° and washed to give a red fabric with excellent fastness to washing, storage, bleeding and light.

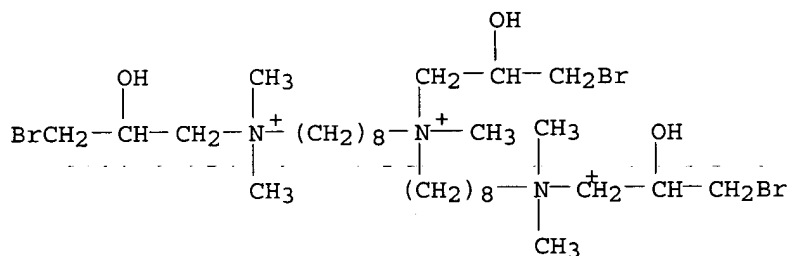
IT 99580-36-6

RL: USES (Uses)

(colorfastness-improving agents, for dyeing of textiles with anionic dyes)

RN 99580-36-6 HCAPLUS

CN 1,8-Octanediaminium, N,N'-bis(3-bromo-2-hydroxypropyl)-N-[8-[(3-bromo-2-hydroxypropyl)dimethylammonio]octyl]-N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

● 3 Br<sup>-</sup>

L21 ANSWER 14 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:144822 HCAPLUS

DOCUMENT NUMBER: 100:144822

TITLE: Hair and cosmetic compositions containing quaternized polymer

INVENTOR(S): Jacquet, Bernard; Lang, Gerard

PATENT ASSIGNEE(S): Oreal S. A., Fr.

SOURCE: U.S., 27 pp. Cont.-in-part of U.S. 4,217,914.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4422853	A	19831227	US 1980-163411	19800626 <--
BE 829081	A1	19751114	BE 1975-156359	19750514 <--
AT 369261	B	19821227	AT 1975-8647	19751113 <--

AT 7508647	A	19800915		
US 4217914	A	19800819	US 1977-849657	19771108 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
US 4948579	A	19900814	US 1983-545770	19831026 <--
US 5196189	A	19930323	US 1992-897483	19920612 <--

PRIORITY APPLN. INFO.:

LU 1974-70096	A	19740516
LU 1975-71849	A	19750214
US 1975-577836	A2	19750515
US 1977-849657	A2	19771108
AT 1975-8647	A	19751113
US 1977-849667	A2	19771108
US 1980-163411	A3	19800626
US 1983-545770	A3	19831026
US 1990-527948	B1	19900423

AB Hair dyeing and skin compns. contain a quaternized polymer having a recurring unit,  $[N+RR1AN+RR1B-2X-]$  (R = alkyl or  $CH_2CH_2OH$ ; R1 = C $\geq$ 20 alkyl or cycloalkyl or benzyl; NRR1 = heterocyclic; A and B = xylylidene, etc.; X = anion). The recurring unit can be prepared by several methods, e.g. polycondensation of a di-tert-diamine and a dihalide at 20-100°. Thus, an oxidation hair dye cream support was prepared containing N,N'-dibutyl-N,N'-dimethylhexamethylenediamine-1,6-dibromohexane copolymer [58295-93-5] 5, common ingredients, and water to 100 g. This cream (30 g) mixed with 45 g H<sub>2</sub>O<sub>2</sub> (20 volume) produced a glossy and thick cream, pleasant to apply and which adheres well to the hair. The cream remains in contact with the hair for 30 min, after which the hair is rinsed and dried. When applied to 100% white hair, a blonde color is obtained, and the hair, wet or dry, is easy to untangle and has shiny appearance, and a pleasant and silky feel.

IT 58295-15-1P 58295-17-3P 59407-59-9P

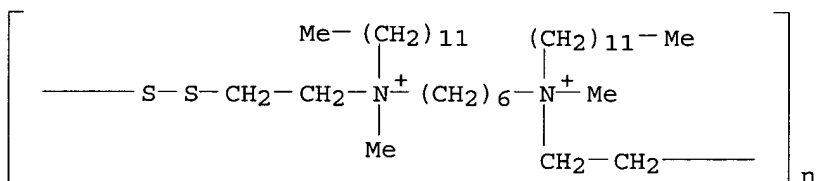
59407-65-7P 59407-95-3P

RL: PREP (Preparation)

(preparation of, for cosmetic and hair prepns.)

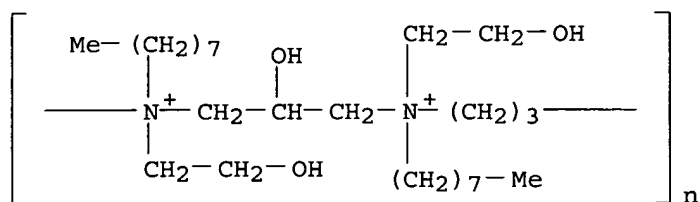
RN 58295-15-1 HCAPLUS

CN Poly[dithio-1,2-ethanediyl(dodecylmethylininio)-1,6-hexanediyl(dodecylmethylininio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

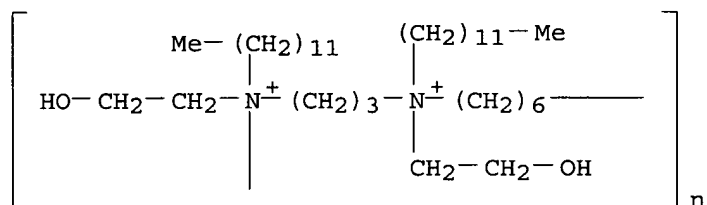
RN 58295-17-3 HCAPLUS

CN Poly[[ (2-hydroxyethyl)octylininio] (2-hydroxy-1,3-propanediyl) [(2-hydroxyethyl)octylininio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

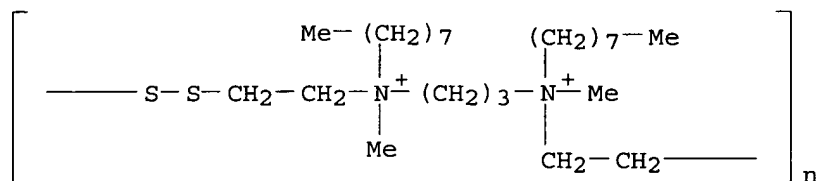
RN 59407-59-9 HCAPLUS

CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

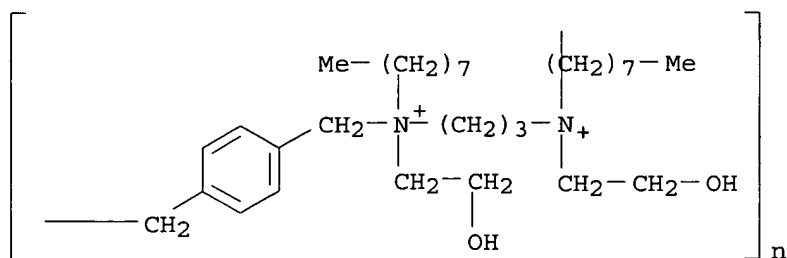
RN 59407-65-7 HCAPLUS

CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

RN 59407-95-3 HCAPLUS

CN Poly[[ (2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

L21 ANSWER 15 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1983:88812 HCAPLUS  
 DOCUMENT NUMBER: 98:88812  
 TITLE: Quaternary ammonium compounds  
 INVENTOR(S): Rutzen, Horst; Nikolaus, Peter; Bischoff, Martin; Lehmann, Rudolf  
 PATENT ASSIGNEE(S): Henkel K.-G.a.A., Fed. Rep. Ger.; Degussa A.-G.  
 SOURCE: Ger. Offen., 20 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3116087	A1	19821111	DE 1981-3116087	19810423 <--
EP 68089	A2	19830105	EP 1982-103155	19820415 <--
EP 68089	A3	19840905		
EP 68089	B1	19861230		
EP 68089	B2	19920415		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 24480	E	19870115	AT 1982-103155	19820415 <--
US 4492802	A	19850108	US 1982-369760	19820419 <--
JP 57181044	A2	19821108	JP 1982-64831	19820420 <--
JP 03072055	B4	19911115		
ZA 8202757	A	19830330	ZA 1982-2757	19820422 <--
BR 8202350	A	19830405	BR 1982-2350	19820423 <--

PRIORITY APPLN. INFO.: DE 1981-3116087 A 19810423  
 EP 1982-103155 A 19820415

AB Quaternary ammonium salts suitable for use as germicides and fabric softeners (no data) were prepared by treating  $\alpha$ -olefin epoxides with tertiary amines in the presence of a quaternary salt as catalyst. Thus, 98.6 g 37% HCl were added dropwise to 148.8 g 43.7% aqueous Me<sub>3</sub>N in 891 g H<sub>2</sub>O, 247.6 g 1,2-epoxyhexadecane and 7.0 g 75 (C<sub>18</sub>H<sub>37</sub>)<sub>2</sub>NMe<sub>2</sub>Cl, 15 Me<sub>2</sub>CHOH, and 10% H<sub>2</sub>O mixture added, and the whole was heated 5 h at 80° to give (2-hydroxyhexadecyl)trimethylammonium chloride.

IT 84643-57-2P 84643-59-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 84643-57-2 HCAPLUS

CN 1,3-Propanediaminium, N,N'-bis(2-hydroxyoctadecyl)-N,N,N',N'-tetramethyl-,

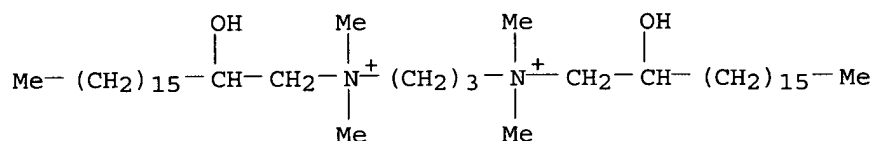


phosphate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 84643-56-1

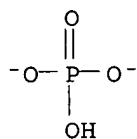
CMF C43 H92 N2 O2



CM 2

CRN 14066-19-4

CMF H O4 P



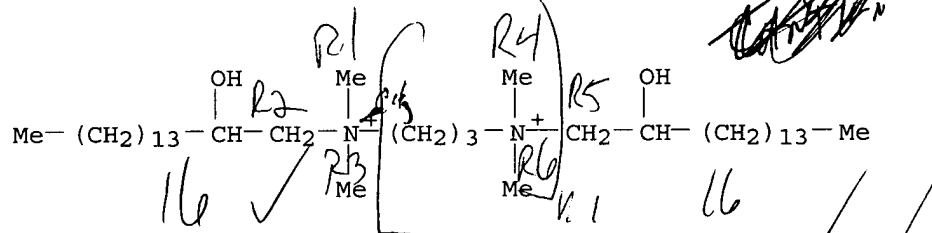
RN 84643-59-4 HCAPLUS

1,3-Propanediaminium; N,N'-bis(2-hydroxyhexadecyl)-N,N,N',N'-tetramethyl-,  
diformate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 84643-58-3

CMF C39 H84 N2 O2



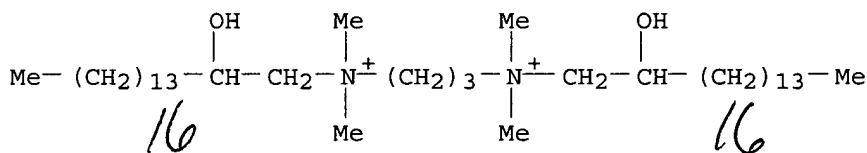
CM 2

CRN 71-47-6

CMF C H O2



TITLE: Quaternation of tertiary amine salts with long chain epoxides  
 AUTHOR(S): Rutzen, H.  
 CORPORATE SOURCE: Lab. Henkel KGaA, Duesseldorf, Fed. Rep. Ger.  
 SOURCE: Fette, Seifen, Anstrichmittel (1982), 84(3), 87-92  
 CODEN: FSASAX; ISSN: 0015-038X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 AB A new process for the preparation of quaternary ammonium compds. operates at atmospheric pressure at relatively low temperature with phase transfer catalysts in aqueous dispersion. As special advantage, the process offers a large variability with respect to reaction participants (epoxide, tertiary amine, and acids). Polyfunctional compds. may also be used. These give products with several quaternary centers or polymeric quaternary salts. The products are interesting for the fields of cosmetics disinfectants, and textile treatment.  
 IT 82711-91-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)  
 RN 82711-91-9 HCAPLUS  
 CN 1,3-Propanediaminium, N,N'-bis(2-hydroxyhexadecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

● 2 Cl<sup>-</sup>

L21 ANSWER 17 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1982:442075 HCAPLUS  
 DOCUMENT NUMBER: 97:42075  
 TITLE: Organic diammonium and related compounds as solvent extractants  
 INVENTOR(S): Du Preez, Jan Gysbert Hermanus  
 PATENT ASSIGNEE(S): Johannesburg Consolidated Investment Co. Ltd., S. Afr.  
 SOURCE: S. African, 24 pp.  
 CODEN: SFXXAB  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 8006992	A	19811028	ZA 1980-6992	19801112 <--
PRIORITY APPLN. INFO.:			ZA 1979-6097	A 19791113

AB Metal ions are extracted from aqueous solns. by a ditertiary amine, phosphine, or  
 or  
 arsine of the general formula R<sub>1</sub>R<sub>2</sub>M(CH<sub>2</sub>)<sub>n</sub>MR<sub>3</sub>R<sub>4</sub> (M = N, P, or As; n = 2-10; R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> = C<sub>7</sub>-12 alkyl or aryl groups), and a diquaternary ammonium,

phosphonium, or arsonium salt of the general formula  $R_1R_2R_3M(CH_2)_nMR_4R_5R_6-2X$  ( $M = N, P, \text{ or } As$ ;  $n = 2-10$ ;  $X = Cl-, Br-, I-, SCN-, NO_3-, HSO_4-, \text{ or } SO_4^{2-}$ ;  $R_1, R_2, R_3, R_4, R_5, R_6 = C_1-15$  alkyl or aryl groups, and  $\geq 4$  are  $C_7-12$ ). Preferred compds. are  $N,N,N',N'$ -tetraoctylethylenediamine [54378-14-2],  $N,N,N,N',N',N'$ -hexaocetylhexamethylenediammonium diiodide [82333-96-8], and  $N,N'$ -dimethyl- $N,N,N',N'$ -tetraoctylethylenediammonium diiodide [82333-97-9]. Methods of preparation are given. The use of compds. in extraction of U, Fe, Cu, and Co are described.

IT 82334-07-4P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of, for extraction of metals)

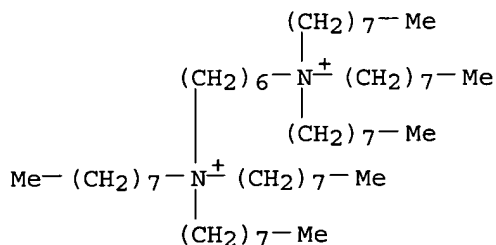
RN 82334-07-4 HCAPLUS

CN 1,6-Hexanediaminium,  $N,N,N,N',N',N'$ -hexaocetyl-, dithiocyanate (9CI) (CA  
INDEX NAME)

CM 1

CRN 82334-06-3

CMF C54 H114 N2



CM 2

CRN 302-04-5

CMF C N S

-S-C $\equiv$ N

L21 ANSWER 18 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:52691 HCAPLUS

DOCUMENT NUMBER: 94:52691

TITLE: Quaternized polymer for use as a cosmetic agent in  
cosmetic compositions for the hair and skin

INVENTOR(S): Jacquet, Bernard; Lang, Gerard

PATENT ASSIGNEE(S): Oreal S. A., Fr.

SOURCE: U.S., 36 pp. Cont.-in-part of U.S. Ser. No. 577,836,  
abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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Riggins 10\_721532

US 4217914	A	19800819	US 1977-849657	19771108 <--
BE 829081	A1	19751114	BE 1975-156359	19750514 <--
AT 369261	B	19821227	AT 1975-8647	19751113 <--
AT 7508647	A	19800915		
US 4422853	A	19831227	US 1980-163411	19800626 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
US 4948579	A	19900814	US 1983-545770	19831026 <--

PRIORITY APPLN. INFO.:

LU 1974-70096	A	19740516
LU 1975-71849	A	19750214
US 1975-577836	A2	19750515
AT 1975-8647	A	19751113
US 1977-849657	A2	19771108
US 1980-163411	A3	19800626

AB The title compds. (N+RR1AN+RR1B)m.X-2m [A and B = xylylene, (CH2)xCHX1(CH2)yCHX2(CH2)z, (CH2)nS(CH2)n, etc.; x, y, z = 0-11; X1, X2 = H or alkyl; n = 2 or 3; X = anion] were prepared by several methods and formulated as compns. for treatment of hair and skin. Thus, a hand cream formulation contains Vaseline oil 10, cetyl alc. 6, glyceryl monostearate 4, triethanolamine 2, Me p-hydroxybenzoate 0.1, quaternized polymer [28728-55-4] 4, and water up to 100 g.

IT 59407-59-9P 59407-65-7P 59407-95-3P

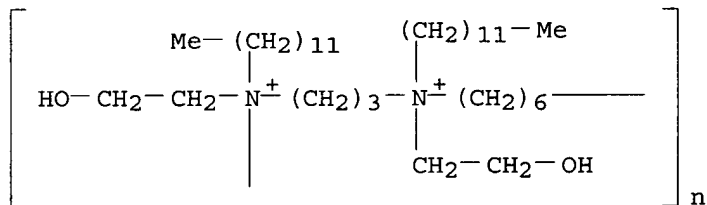
76171-03-4P

RL: PREP (Preparation)

(preparation of, for hair and skin cosmetics)

RN 59407-59-9 HCAPLUS

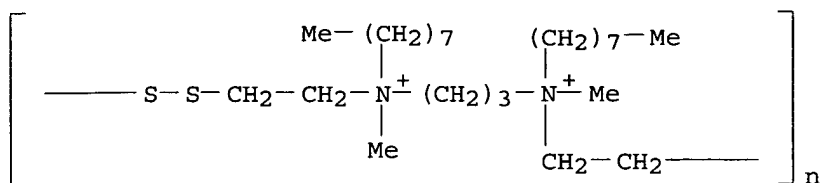
CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyl dibromide] (9CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

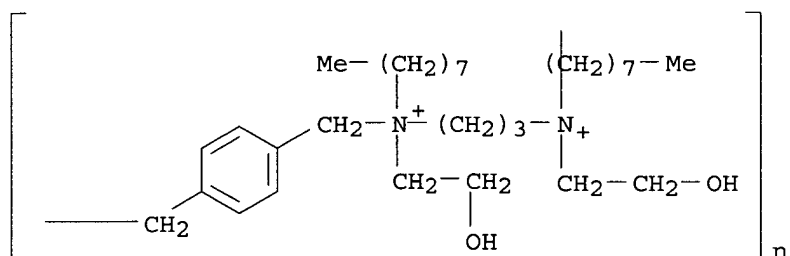
RN 59407-65-7 HCAPLUS

CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



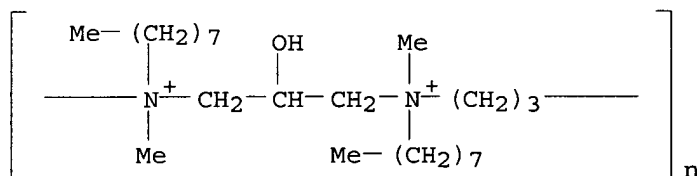
●2 Br<sup>-</sup>

RN 59407-95-3 HCAPLUS  
 CN Poly[[ (2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI)  
 (CA INDEX NAME)



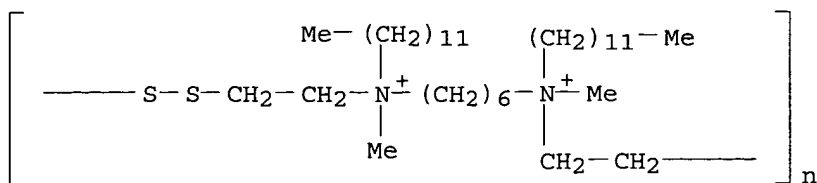
●2 Br<sup>-</sup>

RN 76171-03-4 HCAPLUS  
 CN Poly[(methyloctyliminio) (2-hydroxy-1,3-propanediyl) (methyloctyliminio)-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)



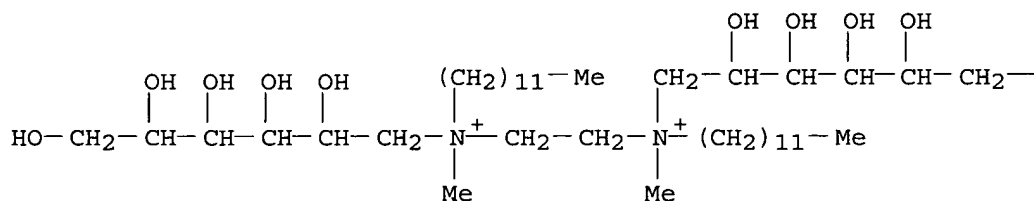
●2 Br<sup>-</sup>

IT 58295-15-1P  
 RL: PREP (Preparation)  
 (preparation of, for hair and skin treatment)  
 RN 58295-15-1 HCAPLUS  
 CN Poly[dithio-1,2-ethanediyl(dodecylmethyliminio)-1,6-hexanediyl(dodecylmethyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

 $\bullet_2 \text{ Br}^-$ 

CN D-Glucitol, 1,1'-[1,2-ethanediylbis(dodecylmethyliminio)]bis[1-deoxy-,  
dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

 $\bullet_2 \text{ Br}^-$

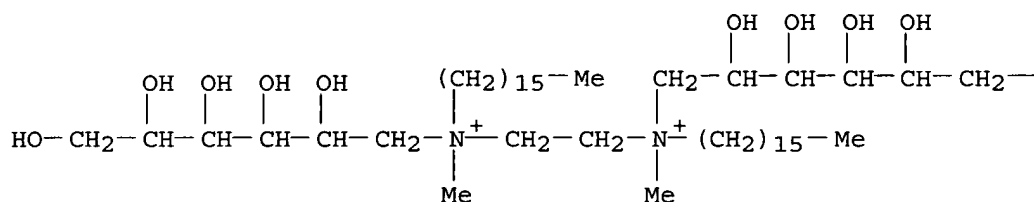
PAGE 1-B

— OH

RN 75883-17-9 HCAPLUS

CN D-Glucitol, 1,1'-[1,2-ethanediylbis(hexadecylmethyliminio)]bis[1-deoxy-,  
dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 Br<sup>-</sup>

PAGE 1-B

— OH

L21 ANSWER 20 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:638816 HCAPLUS

DOCUMENT NUMBER: 93:238816

TITLE: Microbiocidal quaternaries of halogen derivatives of  
alkynoxymethyl amines

INVENTOR(S): Quinlan, Patrick M.

PATENT ASSIGNEE(S): Petrolite Corp., USA

SOURCE: U.S., 10 pp. Division of U.S. Ser. No. 556,331.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4206233	A	19800603	US 1978-957629	19781103 <--
US 4252743	A	19810224	US 1978-957615	19781103 <--
PRIORITY APPLN. INFO.:			US 1975-556331	A3 19750307
			US 1978-957615	A1 19781103

AB The title compds., RR1N+(CH2OCH2C.tplbond.CI)2.A- (R, R1 = alkyl, aryl, aralkyl, etc.; A- = anion, e.g., halide) and Z[N+R(CH2OCH2C.tplbond.CI)2]2 .2A- (Z = alkylene, alkynylene, alkenylene, arylene, etc.), useful as bactericides and corrosion inhibitors, especially for ferrous metals, were prepared by the quaternization of RN(CH2OCH2C.tplbond.CI)2 with R1A or with

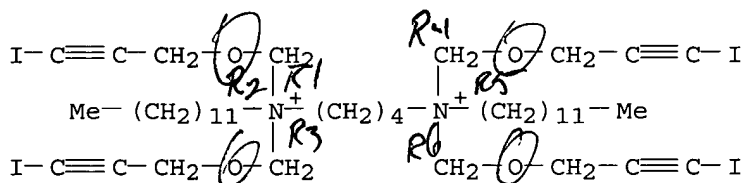
ZA2. Thus, C12H25N(CH2OCH2C.tplbond.CI)2 refluxed with MeI in Me2CHOH gave C12H25N+Me(CH2OCH2C.tplbond.CI)2.I- which presented static weight loss in corrosion inhibiting tests with steel and which inhibited growth of the organism *Desulfovibrio desulfuricans*.

IT 73585-29-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and bactericidal and corrosion inhibiting properties of)

RN 73585-29-2 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis[[3-iodo-2-propynyl]oxy]methyl]-, dibromide (9CI) (CA INDEX NAME)

 $\bullet_2 \text{ Br}^-$ 

L21 ANSWER 21 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:533793 HCAPLUS

DOCUMENT NUMBER: 93:133793

TITLE: Softener for textiles

INVENTOR(S) : Minegishi, Yutaka; Nishimura, Toshiro

PATENT ASSIGNEE(S): Kao Soap Co., Ltd., Japan

SOURCE: Ger. Offen., 17 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2949212	A1	19800619	DE 1979-2949212	19791204 <--
DE 2949212	C2	19890216		
JP 55076168	A2	19800609	JP 1978-150290	19781205 <--
JP 59032585	B4	19840809		
US 4277350	A	19810707	US 1979-98685	19791129 <--
FR 2443526	A1	19800704	FR 1979-29776	19791204 <--
FR 2443526	B1	19811218		
ES 486594	A1	19801101	ES 1979-486594	19791204 <--

PRIORITY APPLN. INFO.:

JP 1978-150290      A 19781205

AB Quaternary alkylenediammonium salts are softening agents for textiles. Thus, hexamethylenebis(methyldioctadecylammonium chloride [74836-16-1], prepared from hexamethylenediamine, C18H37Cl, and MeCl, is an effective softener for laundered, stiffened cotton and acrylic fabrics.

IT 74832-33-0 74836-16-1 74836-18-3

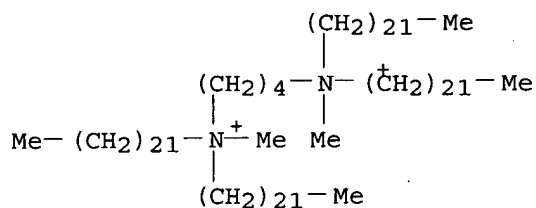
RL: USES (Uses)

(softening agents, for textiles)

RN 74832-33-0 HCAPLUS

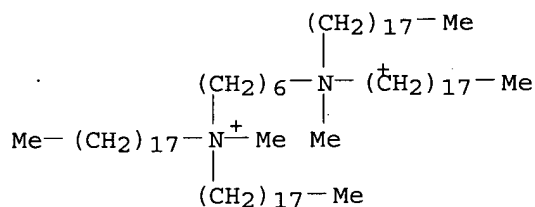
CN 1,4-Butanediaminium, N,N,N',N'-tetradocosyl-N,N'-dimethyl-, dichloride  
(9CI) (CA INDEX NAME)





● 2 Cl<sup>-</sup>

RN 74836-16-1 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-dimethyl-N,N,N',N'-tetraoctadecyl-, dichloride  
 (9CI) (CA INDEX NAME)

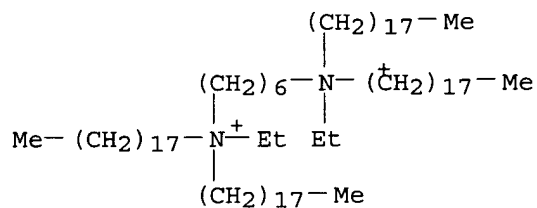


● 2 Cl<sup>-</sup>

RN 74836-18-3 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-diethyl-N,N,N',N'-tetraoctadecyl-, sulfate (1:1)  
 (9CI) (CA INDEX NAME)

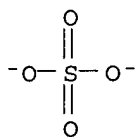
CM 1

CRN 74836-17-2  
 CMF C82 H170 N2



CM 2

CRN 14808-79-8  
 CMF O4 S



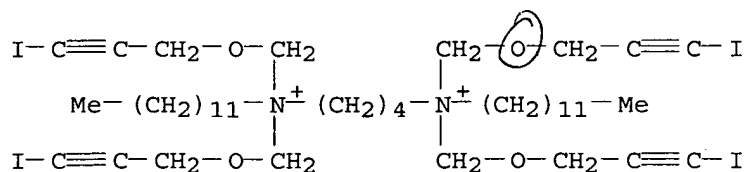
L21 ANSWER 22 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1980:499825 HCAPLUS  
 DOCUMENT NUMBER: 93:99825  
 TITLE: Inhibiting corrosion with quaternaries of halogen derivatives of alkynoxymethyl amines  
 INVENTOR(S): Quinlan, Patrick M.  
 PATENT ASSIGNEE(S): Petrolite Corp., USA  
 SOURCE: U.S., 10 pp. Division of U.S. Ser. No. 556,331.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4187277	A	19800205	US 1978-957616	19781103 <--
PRIORITY APPLN. INFO.:			US 1975-556331	A3 19750307

AB Quaternary compds. of halogen derivs. of alkynoxymethyl amines with the general formula of  $\text{RR}_1(\text{N})+(\text{CH}_2\text{OR}_2\text{C.tplbond.CX})_2\text{A}^-$ , where R and R<sub>1</sub> are alkyl or aryl group, can be used in aqueous solution as corrosion inhibitors of ferrous alloys. The A in the general formula is an anion. This group of compds. can also have the form of  $(\text{CH}_2\text{OR}_2\text{C.tplbond.CX})_2\text{RN}^+(\text{Z})\text{N}^+\text{R}(\text{CH}_2\text{OR}_2\text{C.tplbond.CX})_2\text{A}^-$ , where Z is a bridging group. Thus, the compound  $[\text{C}_4\text{H}_9(\text{Me})\text{N}^+(\text{CH}_2\text{OCH}_2\text{C.tplbond.CI})_2]$  was formed by reacting 18.4 g of  $\text{C}_4\text{H}_9(\text{CH}_2\text{OCH}_2\text{C.tplbond.CI})_2$  with 5.7 g of MeI and 20 mL of EtOH.

IT 73585-29-2  
 RL: USES (Uses)  
 (corrosion inhibitor, for steel in aqueous medium)

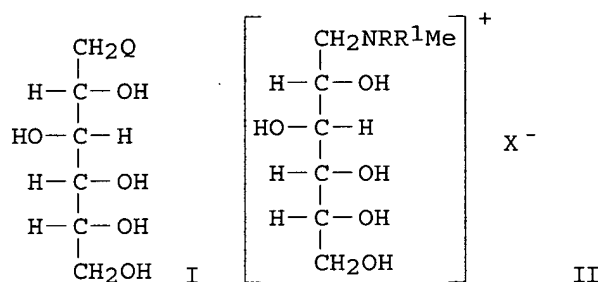
RN 73585-29-2 HCAPLUS  
 CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis[[ (3-iodo-2-propynyl)oxy)methyl]-, dibromide (9CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

L21 ANSWER 23 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1980:181509 HCAPLUS  
 DOCUMENT NUMBER: 92:181509  
 TITLE: Synthesis of antimicrobial substances - derivatives of

AUTHOR(S): D-sorbitol  
 Veksler, V. I.; Deeva, V. E.; Kovalenko, L. N.;  
 Markovich, A. V.; Lysenko, E. A.; Sokolov, B. V.;  
 Sokolov, V. D.; Solov'yan, N. A.; Khavin, Z. Ya.; et  
 al.  
 CORPORATE SOURCE: Leningr. Inst. Sov. Trgovli, Leningrad, USSR  
 SOURCE: Zhurnal Obshchei Khimii (1979), 49(12),  
 2731-8  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 GI

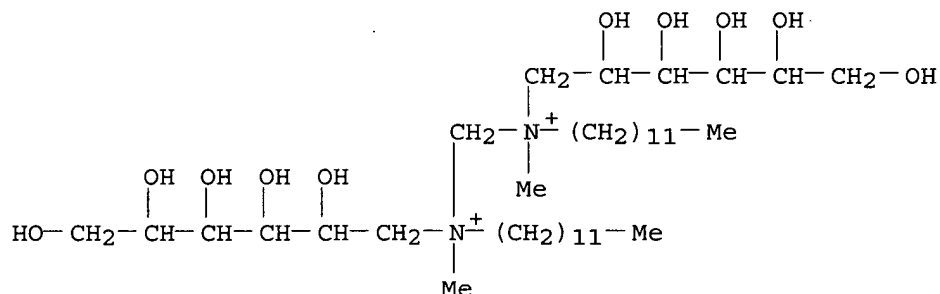


AB Alkylation of N-methyl-D-glucamine (I, Q = MeNH) with RX (R = C<sub>18</sub>H<sub>37</sub>, X = Br; R = C<sub>12</sub>H<sub>25</sub>, C<sub>14</sub>H<sub>29</sub>, C<sub>16</sub>H<sub>33</sub>, X = Cl) gave I (Q = MeNR) which were alkylated by R<sub>1</sub>X [R<sub>1</sub> = C<sub>1</sub>-6, 8-10 alkyl, PhCH<sub>2</sub>, CH<sub>2</sub>CO<sub>2</sub>R<sub>2</sub> (R<sub>2</sub> = Me, hexyl, octyl, decyl), CH<sub>2</sub>CONEt<sub>2</sub>, X = I, Cl, Br, PhSO<sub>3</sub>] to give quaternary ammonium salts II which were effective against gram-pos. bacteria and exhibited low toxicities in chick embryo tests.

IT 73458-89-6P 73458-90-9P 73458-91-0P  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
 (preparation and bactericidal activity of)

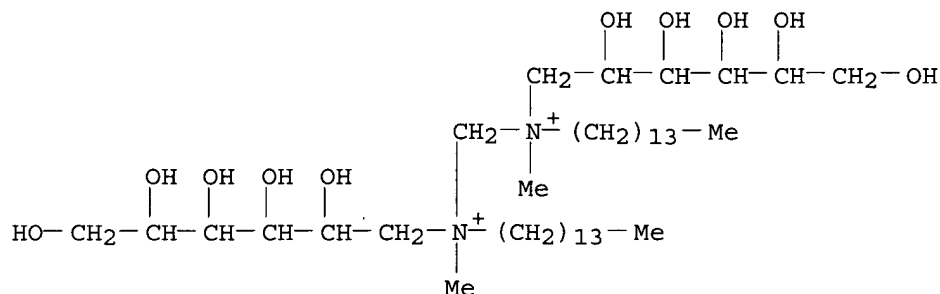
RN 73458-89-6 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(dodecylmethyliminio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

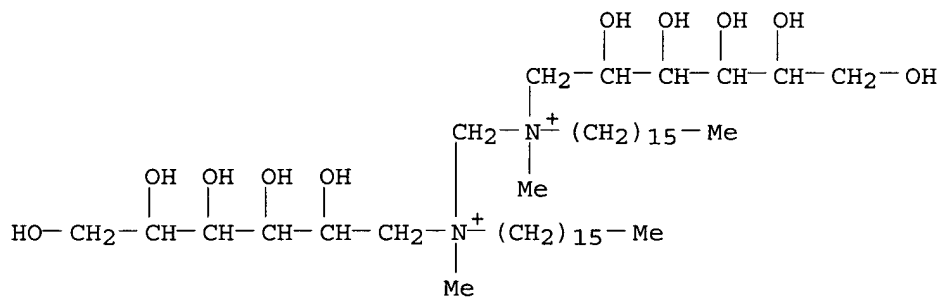


● 2 Br<sup>-</sup>

RN 73458-90-9 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(methyltetradecyliminio)]bis[1-deoxy-,  
dibromide (9CI) (CA INDEX NAME)● 2 Br<sup>-</sup>

RN 73458-91-0 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(hexadecylmethylininio)]bis[1-deoxy-,  
dibromide (9CI) (CA INDEX NAME)● 2 Br<sup>-</sup>

L21 ANSWER 24 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:76079 HCAPLUS

DOCUMENT NUMBER: 92:76079

TITLE: Unsymmetrical oligoquaternary ammonium compounds

INVENTOR(S): Bauman, Robert A.

PATENT ASSIGNEE(S): Colgate-Palmolive Co., USA

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4166073 A 19790828 US 1977-826587 19770822 <--  
 PRIORITY APPLN. INFO.: US 1968-716412 A2 19680327  
 US 1970-82626 A3 19701021

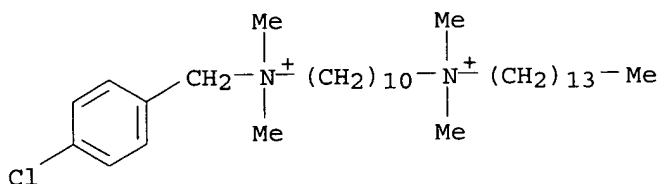
AB Unasym. oligoquaternary ammonium compds. containing  $\geq 2$  onium N atoms,  $RN+R21(CH2)nN+R22[(CH2)mN+R23]pCH2R4 Xq$  (R = C10-18 alkyl, R1-R3 = C1-3 alkyl, R4 = Ph or substituted Ph, m = 2-12, n = 2-18, p = 0 or 1, X = halide, alkanesulfonate or  $PhSO_3^-$ , q = number to satisfy cation valence requirements), which showed antimicrobial and anticaries activities, were prepared. Thus,  $Me(CH_2)_{11}NMe_2$  reacted with excess  $Br(CH_2)_{10}Br$ , then with 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>NMe<sub>2</sub> to give  $Me(CH_2)_{11}N+Me_2(CH_2)_{10}N+Me_2CH_2C_6H_4Cl-4$  2 Br<sup>-</sup>, which gave > 75% caries reduction in hamsters and showed strong bactericidal and fungicidal activity.

IT 50558-05-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and anticaries activity of)

RN 50558-05-9 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)



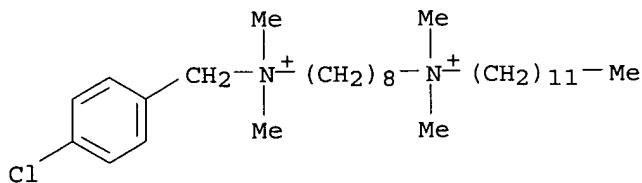
● 2 Br<sup>-</sup>

IT 72164-07-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation and antimicrobial activity of)

RN 72164-07-9 HCAPLUS

CN 1,8-Octanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



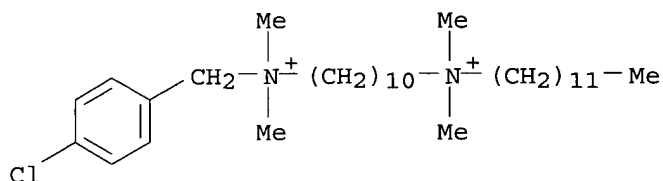
● 2 Br<sup>-</sup>

IT 50558-10-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and antimicrobial and anticaries activity of)

RN 50558-10-6 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

L21 ANSWER 25 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1978:158279 HCAPLUS  
 DOCUMENT NUMBER: 88:158279  
 TITLE: Cosmetics containing quaternized polymers as base materials  
 INVENTOR(S): Jacquet, Bernard; Lang, Gerard  
 PATENT ASSIGNEE(S): Oreal S. A., Fr.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52061237	A2	19770520	JP 1975-135724	19751113 <--
JP 61037242	B4	19860822		

PRIORITY APPLN. INFO.: JP 1975-135724 A 19751113

AB Novel cosmetics were prepared containing the quaternized polymers [N+(X-)RR'AN+(X-)RR'B]n (I) [R = lower alkyl or (CH2)2OH; R' = alkyl, cycloalkyl, aryl, or arylalkyl; NRR' = heterocyclic; A = alkylene, substituted alkylene, or phenylene; B = alkylene or phenylene; X = organic or inorg. anion] as base materials. For example, N,N,N',N'-tetramethylhexamethylenediamine and 1,3-dibromopropane were mixed in 50:50 MeOH-DMF and stirred at room temperature for 170 h to form a quaternized polymer

[I; R = R' = Me, A = (CH2)6, B = (CH2)5, X = Br] (II) [28728-55-4]. A hand cream was then formulated containing petrolatum 10, cetyl alc. 6, emulsified glycerol monostearate 4, triethanolamine 2, Me p-hydroxybenzoate 0.1, II 4, and H2O 73.9g.

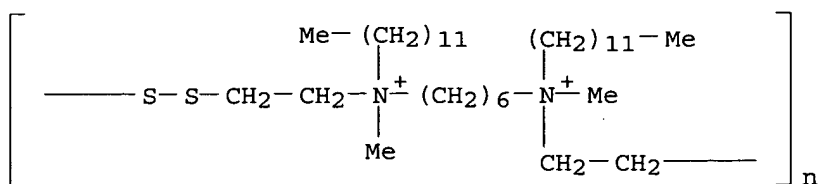
IT 58295-15-1 58295-17-3 59407-59-9

59407-65-7 59407-95-3

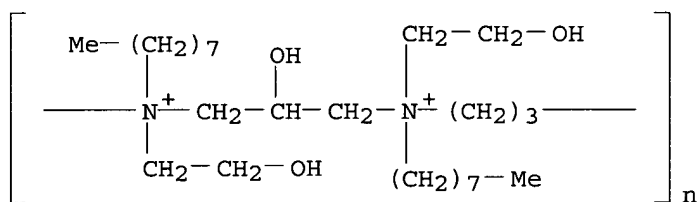
RL: BIOL (Biological study)  
 (for cosmetics, as base materials)

RN 58295-15-1 HCAPLUS

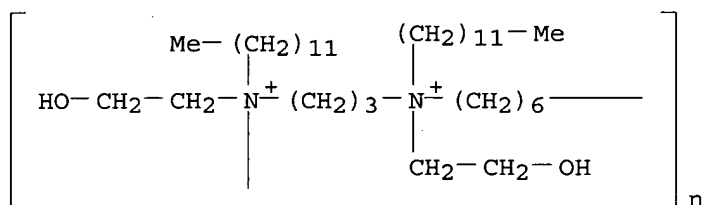
CN Poly[dithio-1,2-ethanediyl(dodecylmethylininio)-1,6-hexanediyl(dodecylmethylininio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

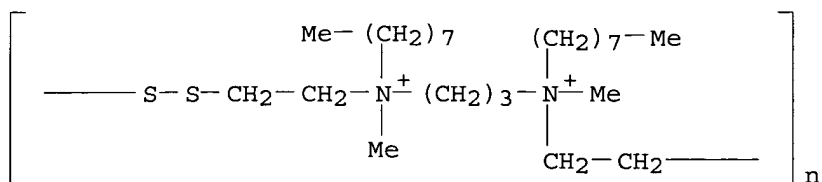
RN 58295-17-3 HCAPLUS  
 CN Poly[[ (2-hydroxyethyl)octyliminio] (2-hydroxy-1,3-propanediyl) [(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

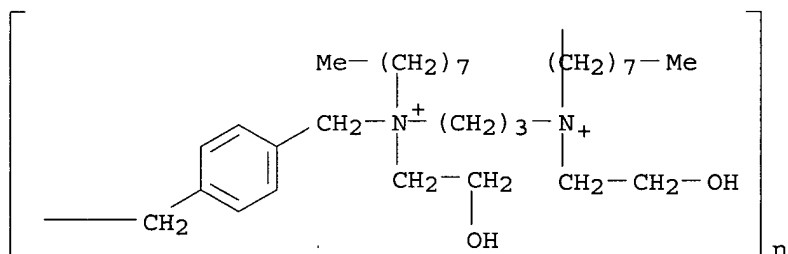
RN 59407-59-9 HCAPLUS  
 CN Poly[[dodecyl (2-hydroxyethyl)iminio]-1,3-propanediyl [dodecyl (2-hydroxyethyl)iminio]-1,6-hexanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 59407-65-7 HCAPLUS  
 CN Poly[dithio-1,2-ethanediyl (methyloctyliminio)-1,3-propanediyl (methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 59407-95-3 HCAPLUS  
 CN Poly[[ (2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI)  
 (CA INDEX NAME)

● 2 Br<sup>-</sup>

L21 ANSWER 26 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1977:405382 HCAPLUS  
 DOCUMENT NUMBER: 87:5382  
 TITLE: N,N'-Bridged-bis[2-alkyl-2-hydroxyethylamines]  
 INVENTOR(S): Diana, Guy D.; Cutler, Royal A.  
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA  
 SOURCE: U.S., 11 pp. Division of U.S. 3,928,427.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4022833	A	19770510	US 1975-582646	19750602 <--
US 3928427	A	19751223	US 1973-332267	19730214 <--
US 4119668	A	19781010	US 1977-833485	19770915 <--
US 4140860	A	19790220	US 1978-916345	19780616 <--
PRIORITY APPLN. INFO.:			US 1971-123097	A2 19710310
			US 1973-332267	A3 19730214
			US 1975-582646	A3 19750602
			US 1976-739447	A3 19761108



US 1977-833485

A3 19770715

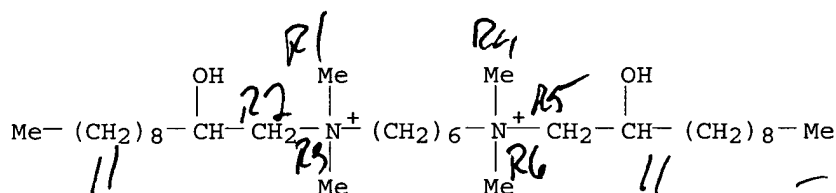
AB Fifty-four bacteriostatic and bactericidal ROCHR1CH2NR2QNR2CH2CHR1OR [I; R = H or PhNHCO; R1 = C5-10,12-14 n-alkyl; R2 = H or Me; Q = (CH2)n (n = 2, 3, 6, 8, 10), 1,4-cyclohexylenedimethylene] were prepared as the free bases, salts, or quaternary salts by the addition of alkyloxiranes to R2NHQNR2 to give the free bases, some of which were converted into the derivs. by conventional methods. Thus, nonyloxirane was added to H2N(CH2)6NH2 to give I [R = R2 = H, R1 = n-nonyl, Q = (CH2)6], which killed 4 types of bacteria at 5-25 ppm.

IT 55778-86-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(preparation and bactericidal activity of)

RN 55778-86-4 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



EXAMPLE 91

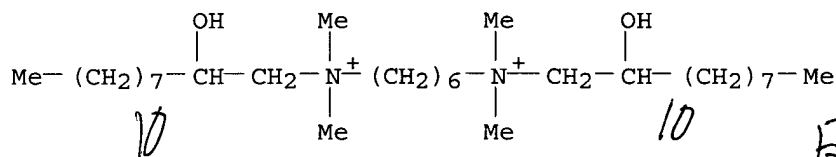
● 2 Cl<sup>-</sup>

IT 55778-87-5P 55778-88-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 55778-87-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



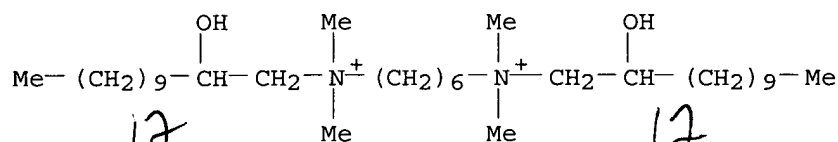
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EX 92

● 2 Cl<sup>-</sup>

RN 55778-88-6 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

● 2 Cl<sup>-</sup>

L21 ANSWER 27 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1977:18315 HCAPLUS

DOCUMENT NUMBER: 86:18315

TITLE: Surface treating agent for textile fibers or human hair

INVENTOR(S): Marushige, Hideo

PATENT ASSIGNEE(S): Carapus Inc., Japan

SOURCE: Jpn. Tokkyo Koho, 11 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51020639	B4	19760626	JP 1971-30393	19710510 <--

PRIORITY APPLN. INFO.: JP 1971-30393 A 19710510

AB Hair and acrylic and polyamide fibers were treated with amino acid salts for washfast softness and antistatic properties. For example, Vonnell was immersed in 0.1% aqueous 10:3 [C<sub>6</sub>H<sub>13</sub>CH(OH)CH<sub>2</sub>NHCH<sub>2</sub>CO<sub>2</sub>]<sub>2</sub>Ca [40441-05-2]-C<sub>12</sub>H<sub>25</sub>CH[O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>15</sub>H]CH<sub>2</sub>N<sup>+</sup>(CH<sub>2</sub>CO<sub>2</sub>H)[(CH<sub>2</sub>CH<sub>2</sub>O)<sub>15</sub>CH<sub>2</sub>CO<sub>2</sub>H]<sub>2</sub>OH<sup>-</sup> Ca salt (2:3) [61099-65-8] for 5 min at 30° to 50% pickup and dried for better washfast antistatic properties than control treated with (C<sub>18</sub>H<sub>37</sub>)<sub>2</sub>Me<sub>2</sub>NCl.

IT **61102-49-6**  
 RL: USES (Uses)  
 (softening and antistatic agents, for hair and polyamide and acrylic fibers)

RN 61102-49-6 HCAPLUS

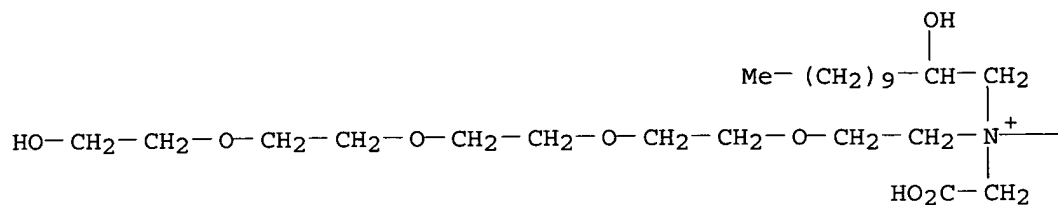
CN 1,2-Ethanediaminium, N,N'-bis(carboxymethyl)-N-(2-decyl-17-hydroxy-3,6,9,12,15-pentaoxaheptadec-1-yl)-N'-(2-hydroxydodecyl)-N,N'-bis(14-hydroxy-3,6,9,12-tetraoxatetradec-1-yl)-, dihydroxide, compd. with 2,2',2''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

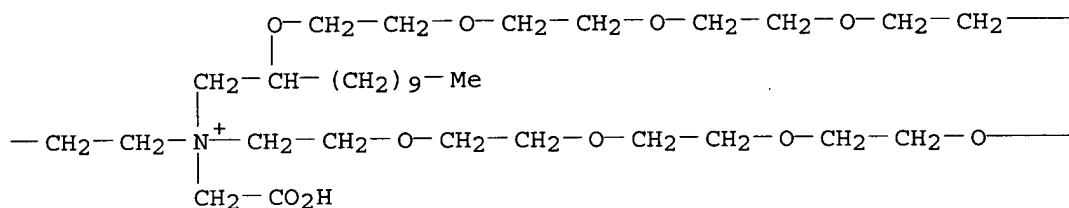
CRN 61102-48-5

CMF C60 H122 N2 O21 . 2 H O

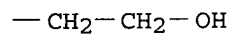
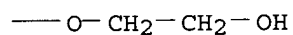
PAGE 1-A

● 2 OH<sup>-</sup>

PAGE 1-B



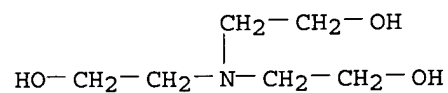
PAGE 1-C



CM 2

CRN 102-71-6

CMF C6 H15 N O3



L21 ANSWER 28 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:594015 HCAPLUS  
 DOCUMENT NUMBER: 85:194015  
 TITLE: Antistatic nylon 6 fibers  
 INVENTOR(S): Akiyama, Isamu  
 PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

DOCUMENT TYPE: CODEN: JKXXAF  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: 1 Japanese  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51096531	A2	19760824	JP 1975-20752	19750218 <--
JP 52008888	B4	19770312		

PRIORITY APPLN. INFO.: JP 1975-20752 A 19750218

AB Polymerization of mixts. of  $\epsilon$ -caprolactam (I) containing a quaternary ammonium compound, adding N,N'-distearoylthylenediamine (II) [110-30-5] or N,N'-dilauroylethylenediamine [7003-56-7] to the mixture, and melt spinning the resulting composition [containing 0.05-2.0% (based on polyamide) II] gave antistatic fibers with reduced yarn breaks. Thus, a mixture of I containing 3% (based on polyamide)  $[C_{18}H_{37}N(OH)(CH_2CO_2-)[(CH_2CH_2O)_pH][(CH_2CH_2O)_qH]]_2Ca^{++}$  ( $p + q = 4$ ) [26248-64-6] was polymerized to give nylon 6 II (0.10%) was added and the composition was spun at 260° and the spun fibers were finished with a lubricant and drawn 240% to give fibers with sp. elec. resistance  $2.6 + 1010 \Omega\text{-cm}$  and number of yarn breaks 0/24 hr, compared with  $5.2 + 1010$  and 84, resp., for fibers spun from a similar composition without II.

IT 60961-95-7 60990-83-2

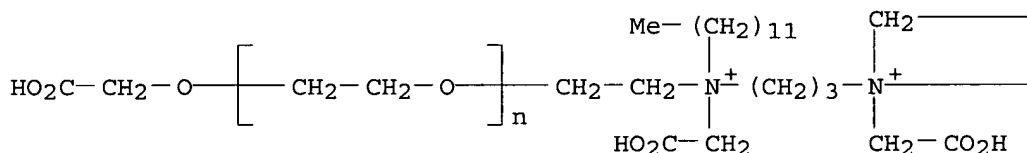
RL: USES (Uses)

(antistatic agents, for nylon fibers)

RN 60961-95-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -[1,3-propanediylbis[[[(carboxymethyl)dodecyliminio]-2,1-ethanediyl]]bis[ $\omega$ -(carboxymethoxy)-, dihydroxide, calcium salt (1:2) (9CI) (CA INDEX NAME)]

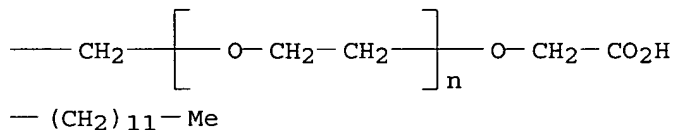
PAGE 1-A



● 2 Ca

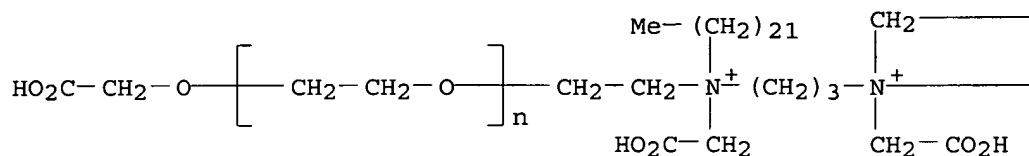
● 2 OH<sup>-</sup>

PAGE 1-B



RN 60990-83-2 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -[1,3-propanediylbis[[(carboxymethyl)docosyliminio]-2,1-ethanediyl]]bis[ $\omega$ -(carboxymethoxy)-, dihydroxide, calcium salt (1:2) (9CI) (CA INDEX NAME)

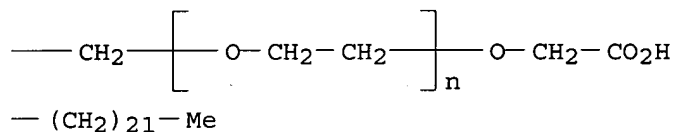
PAGE 1-A



● 2 Ca

● 2 OH<sup>-</sup>

PAGE 1-B



L21 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:566467 HCAPLUS  
 DOCUMENT NUMBER: 85:166467  
 TITLE: Use of polyquaternary ammonium methylene phosphonates in chelating or scale inhibition  
 INVENTOR(S): Quinlan, Patrick M.  
 PATENT ASSIGNEE(S): Petrolite Corp., USA  
 SOURCE: U.S., 13 pp. Division of U.S. 3,792,084.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3966630	A	19760629	US 1973-412603	19731105 <--
US 3792084	A	19740212	US 1972-237883	19720324 <--
PRIORITY APPLN. INFO.: US 1972-237883			A3 19720324	

AB Scale, such as that caused by Ca, Ba, Mg, CO<sub>3</sub><sup>2-</sup>, SO<sub>4</sub><sup>2-</sup>, SiO<sub>3</sub><sup>2-</sup>, etc., are inhibited by polyquaternary ammonium methylenephosphonates. These include compns. with  $\geq 2$  quaternary ammonium groups, and  $\geq 4$  methylenephosphonate group attached to nitrogens of the quaternary ammonium groups. A representative member is the reaction product of 1,4-dichloro-2-butene and (H<sub>2</sub>O<sub>3</sub>PCH<sub>2</sub>)NCH<sub>2</sub>CH<sub>2</sub>N(CH<sub>2</sub>PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub>. The compns. are

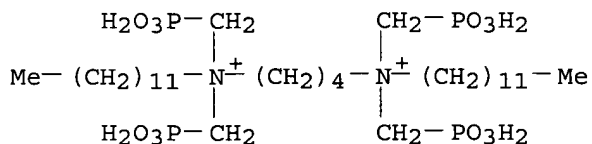
effective as scale inhibitors in small amts. such as 50-50,000 ppm of scale-forming salts. In addition to being an effective chelating agent, the compns. are microbiocides in water treatment and in flooding in petroleum recovery. Yields from a given field may be increased by  $\leq 20-30\%$ .

IT 53722-35-3 60820-64-6 60893-88-1

RL: OCCU (Occurrence)  
(bactericide for water)

RN 53722-35-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)

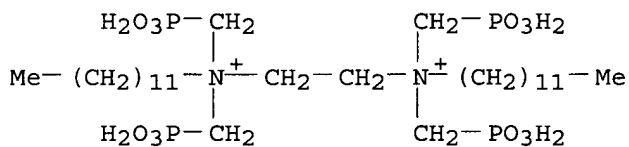


● 2 Br<sup>-</sup>

● 8 Na

RN 60820-64-6 HCAPLUS

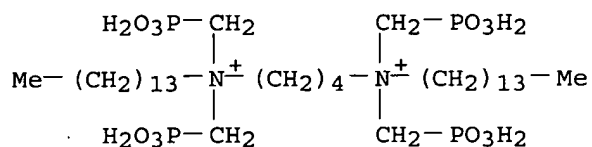
CN 1,2-Ethanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide (9CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

RN 60893-88-1 HCAPLUS

CN 1,4-Butanediaminium, N,N,N',N'-tetrakis(phosphonomethyl)-N,N'-ditetradecyl-, dibromide (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

L21 ANSWER 30 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:525705 HCAPLUS

DOCUMENT NUMBER: 85:125705

TITLE: Dyeing of acrylic fibers

INVENTOR(S): Watanabe, Atsuo; Sunaga, Yasuhiro; Sugiyama, Saishiro

PATENT ASSIGNEE(S): Morin Chemical Industries Ltd., Japan

SOURCE: Jpn. Tokkyo Koho, 12 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49029911	B4	19740808	JP 1971-27917	19710430 <--
PRIORITY APPLN. INFO.:			JP 1971-27917	A 19710430

AB Dyeing acrylic fibers with an acidic liquor containing a cationic dye and a quaternary or tertiary ammonium salt and adding an alkali compound to the liquor to decompose the salt gave colored fabrics with improved dye adsorption. Thus, Cashmilon F fabric was immersed in a bath containing Aizen Caltrilon Yellow GCLH, 90% AcOH 1, and [C<sub>17</sub>H<sub>33</sub>CONHCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Bu]+Cl<sup>-</sup> [60416-39-9] 3% (on fiber weight) for 40 min at 100°. Aqueous 25% NH<sub>3</sub> was added and the fabric was immersed in the mixture for 10 min at 100° to give a uniform yellow fabric.

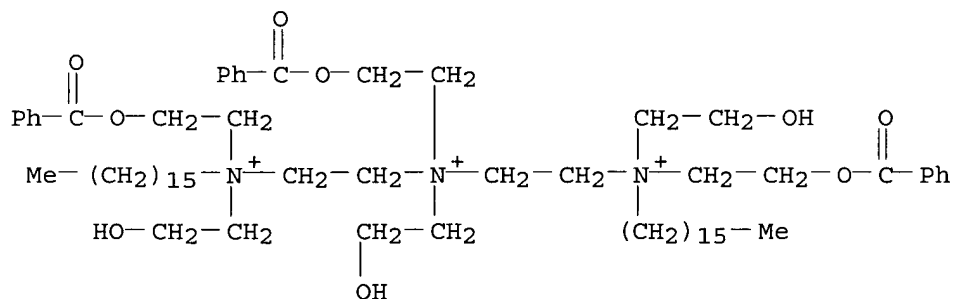
IT 60416-36-6

RL: USES (Uses)

(carriers, for dyeing of acrylic fibers)

RN 60416-36-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-bis[2-(benzoyloxy)ethyl]-N-[2-[[2-(benzoyloxy)ethyl]hexadecyl(2-hydroxyethyl)ammonio]ethyl]-N'-hexadecyl-N,N'-bis(2-hydroxyethyl)-, triiodide (9CI) (CA INDEX NAME)



● 3 I<sup>-</sup>

L21 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:410313 HCAPLUS  
 DOCUMENT NUMBER: 85:10313  
 TITLE: Cosmetic material based on quaternized polymers  
 INVENTOR(S): Jacquet, Bernard; Lang, Gerard  
 PATENT ASSIGNEE(S): Oreal S. A., Fr.  
 SOURCE: Ger. Offen., 107 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2521960	A1	19760408	DE 1975-2521960	19750516 <--
DE 2521960	B2	19790927		
DE 2521960	C3	19871203		
BE 829081	A1	19751114	BE 1975-156359	19750514 <--
NL 7505670	A	19751118	NL 1975-5670	19750514 <--
NL 180975	B	19870102		
NL 180975	C	19870601		
CH 611156	A	19790531	CH 1975-6221	19750514 <--
FR 2270846	A1	19751212	FR 1975-15162	19750515 <--
FR 2270846	B1	19781020		
CA 1059436	A1	19790731	CA 1975-227053	19750515 <--
AT 369261	B	19821227	AT 1975-8647	19751113 <--
AT 7508647	A	19800915		
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
PRIORITY APPLN. INFO.:			LU 1974-70096	A 19740516
			LU 1975-71849	A 19750214
			AT 1975-8647	A 19751113

AB Cationic polymers containing quaternary N atoms in the polymer chain are useful as hair conditioning agents and skin moisturizers and softeners. For example, 326 g N,N'-dimethyl-N,N'-dioctyl-1,3-diaminopropane (prepared by reaction of 1,3-dibromopropane [109-64-8] and N-methyloctylamine [2439-54-5]) reacted with 216 g 1,4-dibromobutane under reflux to form a quaternary copolymer [58295-21-9]. A water wave lotion for sensitive hair was prepared containing this copolymer 1 g, poly(vinylpyrrolidinone) 1 g, and EtOH to 100 ml.



IT 58295-15-1 58295-17-3 59407-59-9

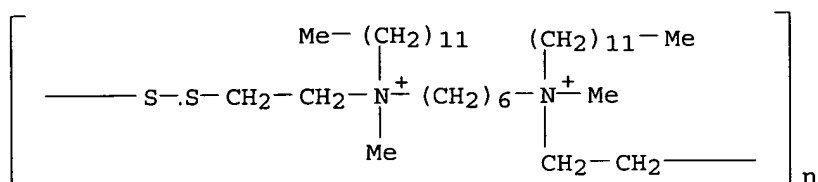
59407-65-7 59407-95-3

RL: BIOL (Biological study)

(hair and skin lotions containing)

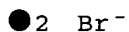
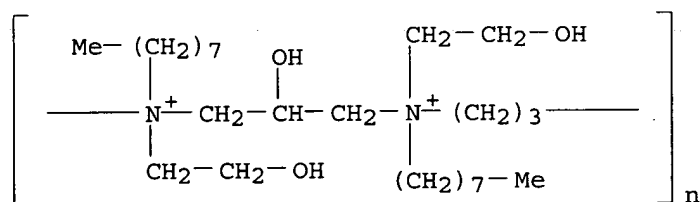
RN 58295-15-1 HCAPLUS

CN Poly[dithio-1,2-ethanediyl(dodecylmethylinio)-1,6-hexanediyl(dodecylmethylinio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



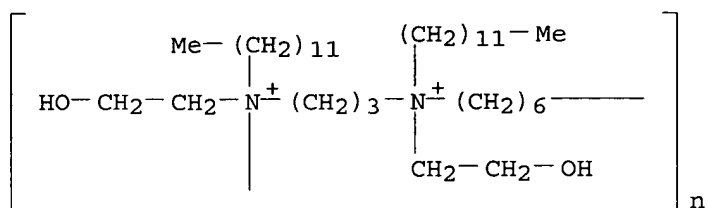
RN 58295-17-3 HCAPLUS

CN Poly[(2-hydroxyethyl)octyliminio] (2-hydroxy-1,3-propanediyl) [(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

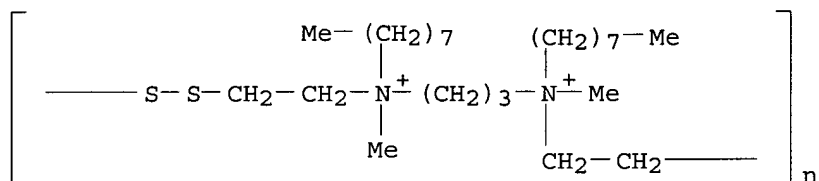


RN 59407-59-9 HCAPLUS

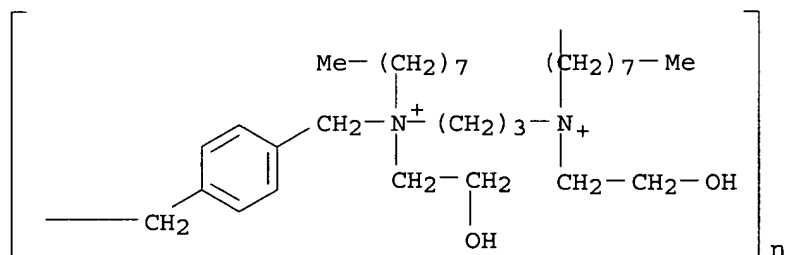
CN Poly[[dodecyl (2-hydroxyethyl) iminio]-1,3-propanediyl [dodecyl (2-hydroxyethyl) iminio]-1,6-hexanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 59407-65-7 HCAPLUS  
 CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 59407-95-3 HCAPLUS  
 CN Poly[[ (2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

L21 ANSWER 32 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:179640 HCAPLUS  
 DOCUMENT NUMBER: 84:179640

TITLE: N,N'-Bridged-bis[2-alkyl-2-hydroxyethylamine] salts  
 INVENTOR(S): Diana, Guy D.; Cutler, Royal A.  
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA  
 SOURCE: U.S., 10 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3928427	A	19751223	US 1973-332267	19730214 <--
→ US 4022833	A	19770510	US 1975-582646	19750602 <--
US 4119668	A	19781010	US 1977-833485	19770915 <--
US 4140860	A	19790220	US 1978-916345	19780616 <--

PRIORITY APPLN. INFO.:

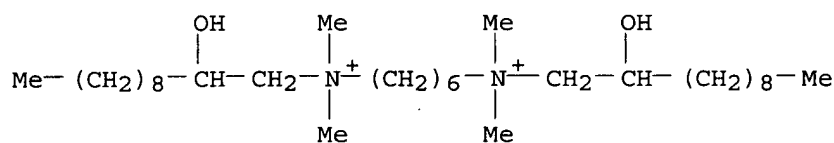
US 1971-123097	A2	19710310
US 1973-332267	A3	19730214
US 1975-582646	A3	19750602
US 1976-739447	A3	19761108
US 1977-833485	A3	19770715

AB The title amines, [RCH(OH)CH<sub>2</sub>NR<sub>1</sub>]<sub>2</sub>Z [I, R = normal C5-10 alkyl, n-dodecyl, n-tridecyl; R<sub>1</sub> = H; Z = (CH<sub>2</sub>)<sub>n</sub> (n = 2, 3, 6, 8, 10), CH<sub>2</sub>Z<sub>1</sub>CH<sub>2</sub> (Z<sub>1</sub> = 1,4-cyclohexylene)], were prepared by reaction of R-substituted oxiranes with H<sub>2</sub>NZNH<sub>2</sub> and were neutralized with hydrogen halides or monocarboxylic acids or methylated with HCHO to give the corresponding I (R<sub>1</sub> = Me) (II). II were neutralized as above, oxidized to the N,N'-dioxides, and quaternized with MeCl to give [RCH(OH)CH<sub>2</sub>N+Me<sub>2</sub>]<sub>2</sub>Z 2Cl<sup>-</sup>. Bactericidal data are given for I [R = n-nonyl, Z = (CH<sub>2</sub>)<sub>6</sub>] and the corresponding II dihydrobromide, N,N'-dioxide, and quaternary ammonium chloride.

IT 55778-86-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and bactericidal properties of)

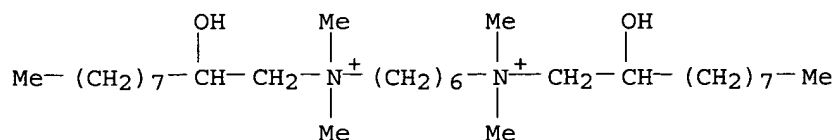
RN 55778-86-4 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

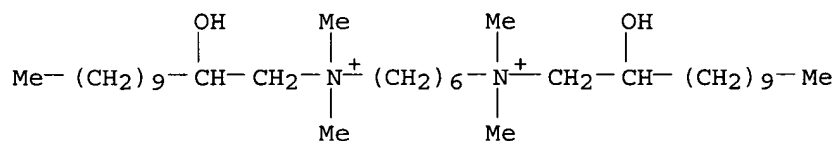


● 2 Cl<sup>-</sup>

IT 55778-87-5P 55778-88-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 55778-87-5 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

● 2 Cl<sup>-</sup>

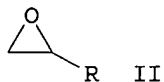
RN 55778-88-6 HCAPLUS  
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-,  
 dichloride (9CI) (CA INDEX NAME)

● 2 Cl<sup>-</sup>

L21 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:164137 HCAPLUS  
 DOCUMENT NUMBER: 84:164137  
 TITLE: N,N'-Alkylenebis[2-alkyl-2-hydroxyethylamines]  
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA  
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49127908	A2	19741207	JP 1973-44242	19730420 <--
PRIORITY APPLN. INFO.:			JP 1973-44242	A 19730420

GI



AB RCH(OR<sub>1</sub>)CH<sub>2</sub>NR<sub>2</sub>ZNR<sub>2</sub>CH<sub>2</sub>CH(OR<sub>1</sub>)R (I; R = C<sub>3</sub>-15 alkyl, C<sub>4</sub>-7 cycloalkyl; R<sub>1</sub> = H, arylcarbamoyl; R<sub>2</sub> = H, C<sub>1</sub>-4 primary and secondary alkyl; Z = C<sub>2</sub>-12 alkylene, C<sub>4</sub>-7 cycloalkylene, phenylene, vinylene and butynylene) and their acid and quaternary ammonium salts were prepared by treating oxirane derivs. (II) with R<sub>2</sub>NHZNHR<sub>2</sub> followed by optional arylcarbamoylation and salt formation. I were effective bactericides in vitro. Thus, a solution of

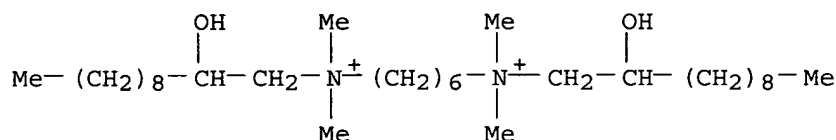
88.8 g II (R = nonyl) and 30.3 g H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>NH<sub>2</sub> in MeOH was kept at 0° overnight and room temperature for 1 week to give I [R = nonyl, R<sub>1</sub> = R<sub>2</sub> = H, Z = (CH<sub>2</sub>)<sub>6</sub>], which was effective against *Clostridium welchii* at 10 ppm. Among 97 addnl. I similarly prepared were (R, R<sub>1</sub>, R<sub>2</sub>, Z given): Me(CH<sub>2</sub>)<sub>4</sub>, H, H, (CH<sub>2</sub>)<sub>6</sub>; nonyl, H, Me, (CH<sub>2</sub>)<sub>6</sub>, (2HBr); octyl, PhNHCO, Me, 1,4-cyclohexylenedimethylene; octyl, H, H, p-xylylene.

IT 55778-86-4P 55778-87-5P 55778-88-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 55778-86-4 HCAPLUS

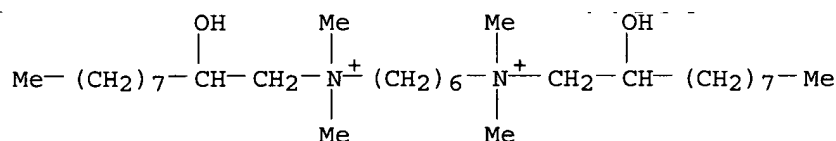
CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-,  
dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

RN 55778-87-5 HCAPLUS

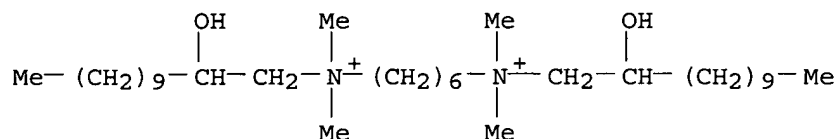
CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-,  
dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

RN 55778-88-6 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-,  
dichloride (9CI) (CA INDEX NAME)



● 2 Cl<sup>-</sup>

ACCESSION NUMBER: 1976:90967 HCAPLUS  
 DOCUMENT NUMBER: 84:90967  
 TITLE: Quaternized polymers  
 INVENTOR(S): Jacquet, Bernard; Lang, Gerard  
 PATENT ASSIGNEE(S): Oreal S. A., Fr.  
 SOURCE: Ger. Offen., 61 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

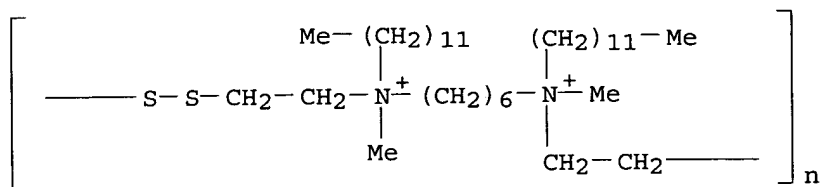
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2521898	A1	19751204	DE 1975-2521898	19750516 <--
DE 2521898	C2	19870806		
BE 829082	A1	19751114	BE 1975-156360	19750514 <--
BE 829083	A1	19751114	BE 1975-156361	19750514 <--
NL 7505669	A	19751118	NL 1975-5669	19750514 <--
CH 611635	A	19790615	CH 1975-6220	19750514 <--
FR 2333012	A1	19770624	FR 1975-15161	19750515 <--
FR 2333012	B1	19820205		
CA 1074497	A1	19800325	CA 1975-227018	19750515 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		

PRIORITY APPLN. INFO.:  
 LU 1974-70095 A 19740516  
 LU 1975-71848 A 19750214  
 AT 1975-8647 A 19751113

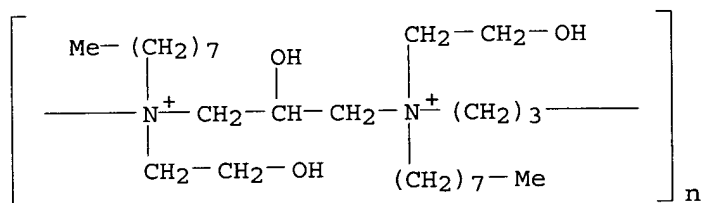
AB 1,6-Dibromohexane-N,N'-didodecyl-N,N'-dimethyl-1,3-propanediamine copolymer [58296-07-4], 1,10-dibromodecane-N,N'-dibutyl-N,N'-dimethyl-1,6-hexanediamine copolymer [58296-05-2], 1,6-dibromohexane-bis[2-[(dodecyl)(methyl)amino]ethyl] disulfide copolymer [58295-85-5], 1,3-dibromo-2-propanol-N,N'-bis(2-hydroxyethyl)-N,N'-dioctyl-1,3-propanediamine copolymer [58295-81-1], 1,6-dibromohexane-1,3-dipiperidino-2-propanol copolymer [58295-80-0], and 15 similar quaternary copolymers were prepared. The copolymers were especially useful in cosmetic preps. for hair, such as shampoos and waving lotions. Thus, 438 g N,N'-didodecyl-N,N'-dimethyl-1,3-propanediamine, 244 g 1,6-dibromohexane [629-03-8], and 3200 ml MeOH were refluxed 80 hr to prepare an EtOH-soluble polymer containing 23.4% Br.

IT **58295-15-1P 58295-17-3P**  
 RL: PREP (Preparation)  
 (preparation of)

RN 58295-15-1 HCAPLUS  
 CN Poly[dithio-1,2-ethanediyl(dodecylmethyliminio)-1,6-hexanediyl(dodecylmethyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

RN 58295-17-3 HCAPLUS  
 CN Poly[[ (2-hydroxyethyl)octyliminio] (2-hydroxy-1,3-propanediyl) [(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

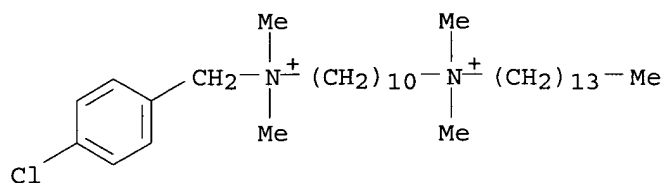
● 2 Br<sup>-</sup>

L21 ANSWER 35 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:73627 HCAPLUS  
 DOCUMENT NUMBER: 84:73627  
 TITLE: Antimicrobial compositions containing unsymmetrical oligoquaternary ammonium compounds  
 INVENTOR(S): Bauman, Robert A.  
 PATENT ASSIGNEE(S): Colgate-Palmolive Co., USA  
 SOURCE: U.S., 7 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3925556	A	19751209	US 1974-506807	19740917 <--
PRIORITY APPLN. INFO.:			US 1968-716412	A2 19680327
			US 1970-82594	A3 19701021
			US 1971-185388	A1 19710930

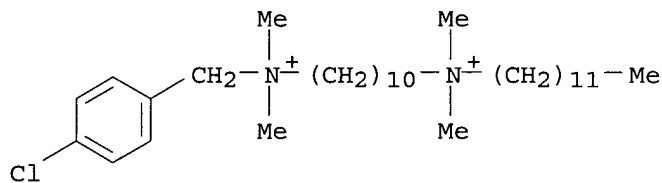
AB Dodecyldimethylamine reacted with Br(CH<sub>2</sub>)<sub>n</sub>Br (n = 3, 4, 6, 8, 10) and PhCH<sub>2</sub>NMe<sub>2</sub> to give oligoquaternary ammonium compds. Me(CH<sub>2</sub>)<sub>11</sub>N+Me<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>N+Me<sub>2</sub>CH<sub>2</sub>Ph 2Br<sup>-</sup>, which exhibited bactericidal activity. Triquaternary compds. Me(CH<sub>2</sub>)<sub>11</sub>N+Me<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>N+Me<sub>2</sub>(CH<sub>2</sub>)<sub>2</sub>N+Me<sub>2</sub>CH<sub>2</sub>Ph 3Br<sup>-</sup> (n = 4, 10) also showed bactericidal activity and were prepared from

Me(CH<sub>2</sub>)<sub>11</sub>N+Me<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>Br Br<sup>-</sup>, Me<sub>2</sub>N(CH<sub>2</sub>)<sub>2</sub>NMe<sub>2</sub>, and PhCH<sub>2</sub>Br.  
 IT 50558-05-9 50558-10-6  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
 (bactericidal activity of)  
 RN 50558-05-9 HCAPLUS  
 CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br<sup>-</sup>

RN 50558-10-6 HCAPLUS  
 CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br<sup>-</sup>

L21 ANSWER 36 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1975:432895 HCAPLUS  
 DOCUMENT NUMBER: 83:32895  
 TITLE: Use of polyquaternary ammonium methylene phosphonates to chelate or inhibit formation of scale  
 INVENTOR(S): Quinlan, Patrick M.  
 PATENT ASSIGNEE(S): Petrolite Corp., USA  
 SOURCE: U.S., 11 pp. Division of U.S. 3,792,084 (CA 81;91729f).  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3867286	A	19750218	US 1973-410714	19731029 <--

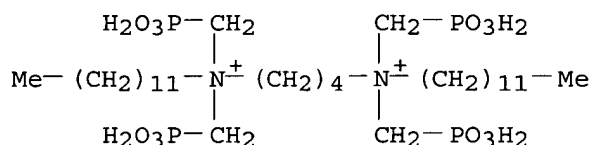


US 3792084 A 19740212 US 1972-237883 19720324 <--  
 PRIORITY APPLN. INFO.: US 1972-237883 A3 19720324  
 AB Amines are phosphomethylolated by the Mannich reaction which requires cooling during reaction which proceeds from 80° to 150°. The preferred reactants are CH<sub>2</sub>O, H<sub>3</sub>PO<sub>3</sub>, and polyamines, e.g. diethylene triamine, dipropylene triamine, triethylene tetramine, tripropylene tetramine, tetraethylene pentamine, tetrapropylene pentamine, polyalkyleneamines, and any other high mol. weight amines derived from alkyleneamines. Thus, (H<sub>2</sub>PO<sub>3</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>N(CH<sub>2</sub>PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub> 41 g and H<sub>2</sub>O 50 ml was added 1,4-dichlorobutene-2. This mixture was stirred, heated, and refluxed until homogeneous. The viscous liquid was water-soluble. These compds. are used to inhibit scale formation when present in 0.1-100 ppm. It is applicable to use in chelation or sequestration of metal ions, as a microbiocide, in water flooding in secondary recovery of oils, and as biocide in hydrocarbon treatment.

IT 53722-35-3P  
 RL: PREP (Preparation)  
 (scale inhibitor, preparation of)

RN 53722-35-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

●8 Na

L21 ANSWER 37 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1975:170033 HCAPLUS  
 DOCUMENT NUMBER: 82:170033  
 TITLE: Antibacterial N,N'-bridged bis(2-alkyl-2-hydroxy)ethylamines  
 INVENTOR(S): Diana, Guy D.; Cutler, Royal A.  
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA  
 SOURCE: Brit., 13 pp.  
 CODEN: BRXXAA  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1377449	A	19741218	GB 1973-15743	19730402 <--
PRIORITY APPLN. INFO.:			GB 1973-15743	A 19730402
AB	The title compds. [Me(CH <sub>2</sub> ) <sub>n</sub> CH(OH)CH <sub>2</sub> NR] <sub>2</sub> (CH <sub>2</sub> ) <sub>m</sub> (I, R = H, Me, n = 3-9, 11,			

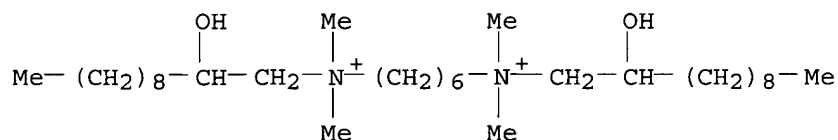
12, m = 2, 3, 6, 8, 10), their acid addition salts, and related N,N'-dioxides and diammonium quaternary salts were prepared by condensing epoxides with diamines. Thus, I (R = H, n = 8, m = 6) was prepared by treating 1-undecene oxide with H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>NH<sub>2</sub> successively overnight at 0° and 2 days at room temperature. Forty-nine compds. were prepared. In vitro antibacterial activities were determined by standard serial dilution tests.

IT 55778-86-4P 55778-87-5P 55778-88-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(bactericide, preparation of)

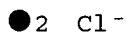
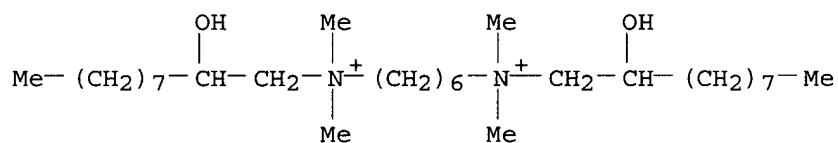
RN 55778-86-4 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



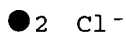
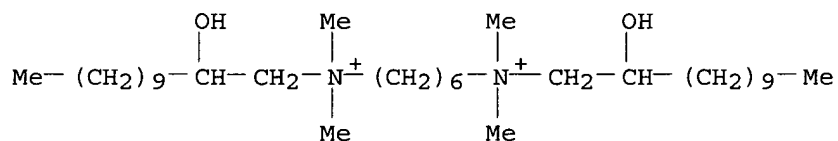
RN 55778-87-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



RN 55778-88-6 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



L21 ANSWER 38 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:491729 HCAPLUS

DOCUMENT NUMBER: 81:91729

TITLE: Polyquaternary ammonium methylene phosphonates and uses thereof

INVENTOR(S): Quinlan, Patrick M.

PATENT ASSIGNEE(S): Petrolite Corp.

SOURCE: U.S., 10 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3792084	A	19740212	US 1972-237883	19720324 <--
US 3867286	A	19750218	US 1973-410714	19731029 <--
US 3966630	A	19760629	US 1973-412603	19731105 <--
US 4164574	A	19790814	US 1977-842147	19771014 <--

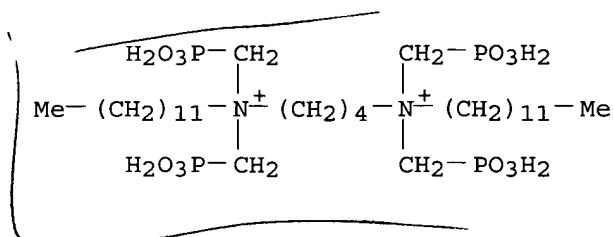
PRIORITY APPLN. INFO.: US 1972-237883 A3 19720324  
US 1973-414946 A3 19731112

AB Phosphonomethylamines were quaternized with alkyl halides to give the title compds. E.g. [(HO)2P(O)CH2]2NCH2CH2N-[CH2P(O)(OH)2]2 (I) treated with MeCl gave [(HO)2P(O)CH2]2-N+R[CH2CH2N+RCH2P(O)(OH)2]n CH2P(O)(OH)2. (n + 1) X2- (II, R = Me, n = 1, X = Cl). Similarly prepared were II (R = Et, n = 2, X = Br; R = Me, n = 3, X = Cl; R = Me, n = 4, X = iodide). BuN[CH2P(O)(OH)2]2 treated with ClCH2-CH:CHCH2Cl and neutralized with NaOH gave [(NaO)2-P(O)CH2]2N+BuCH2CH:CHCH2N+Bu[CH2P(O)(ONa)2]2.2Cl-. Similarly prepared were [(NaO)2P(O)CH2]2N+R(CH2)4N+R [CH2-P(O)(ONa)2]2.2Br- (R = cyclohexyl, C12H25). Polymeric quaternary ammonium methylenephosphonates were obtained from I or [(HO)2P(O)CH2]2N(CH2)3N[CH2P(O)(OH)2]2 and ClCH2-CH:CHCH2Cl or Br(CH2)4Br. The compds. inhibited scale formation from a 200 ppm CaCO3 solution at 180°F 4 hr, sequestered 50-120 ppm Fe3+, Al3+, Cu2+, Ni2+ per 60 ppm sequesterant, and inhibited growth of Desulforilium desulfuricans in hydrocarbon oils.

IT **53722-35-3P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 53722-35-3 HCAPLUS

CN 1,4-Butanediiminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

●8 Na

L21 ANSWER 39 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1973:496997 HCAPLUS  
 DOCUMENT NUMBER: 79:96997  
 TITLE: Oral preparation containing unsymmetrical oligoquaternary ammonium compounds  
 INVENTOR(S): Baumann, Robert A.  
 PATENT ASSIGNEE(S): Colgate-Palmolive Co.  
 SOURCE: U.S., 7 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

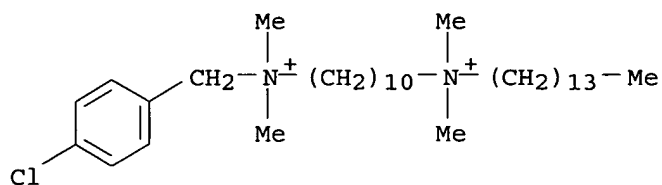
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3749767	A	19730731	US 1971-185444	19710930 <--
PRIORITY APPLN. INFO.:			US 1968-716412	A2 19680327
			US 1970-82594	A2 19701021

AB The oral preparation consists of a dentally acceptable H<sub>2</sub>O-insol. polishing agent and an effective amount of antimicrobial composition consisting of 0.1-5% by weight of an unsymmetrical polyonium quaternary ammonium compound [RR<sub>12</sub>N<sup>+</sup>(CH<sub>2</sub>)<sub>n</sub>N<sup>+</sup>R<sub>22</sub>Y]<sub>n</sub>X<sup>-</sup>. Thus, n-dodecyldimethylamine was treated with a large excess of Br(CH<sub>2</sub>)<sub>n</sub>Br in H<sub>2</sub>O at 25-40° to form n-dodecyldimethyl(ω-bromoalkyl)ammonium bromide. This quaternary ammonium was refluxed in H<sub>2</sub>O with a 2-fold excess of dimethyl(p-chlorobenzyl)amine to give a bis-quaternary ammonium bromide. The antimicrobial spectrum of the compds. was given and the effectiveness of the compds. in reducing caries formation in hamsters was shown. A typical oral preparation (dental cream) contains quaternary [n-C<sub>14</sub>H<sub>29</sub>N+Me<sub>2</sub>(CH<sub>2</sub>)<sub>10</sub>N+Me<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>Cl-p]Br<sub>2</sub> 0.5, NaOBz 0.15, saccharin 0.2, insol. NaPO<sub>3</sub> 42.1, Ca<sub>2</sub>HPO<sub>4</sub>·2H<sub>2</sub>O 5.0, TiO<sub>2</sub> 0.4, gum tragacanth 1.4, oil of wintergreen 1.0, color 0.03, H<sub>2</sub>O 22.12, and glycerin (99.3%) 27.10 parts by weight

IT 50558-05-9 50558-10-6  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
 (bactericide, in dentifrices, for calculus and caries prevention)

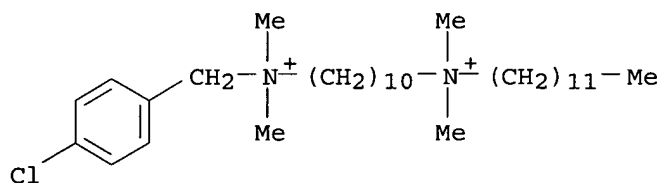
RN 50558-05-9 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

RN 50558-10-6 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

L21 ANSWER 40 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1973:73949 HCAPLUS  
 DOCUMENT NUMBER: 78:73949  
 TITLE: Detergent compositions  
 INVENTOR(S): Marumo, Hideo  
 SOURCE: Ger. Offen., 26 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2222899	A	19721123	DE 1972-2222899	19720510 <--
DE 2222899	B2	19750528		
DE 2222899	C3	19760108		
JP 51018961	B4	19760614	JP 1971-30391	19710510 <--
JP 48079213	A2	19731024	JP 1972-9019	19720126 <--
JP 54018283	B4	19790706		
US 3855156	A	19741217	US 1972-250653	19720505 <--
GB 1398276	A	19750618	GB 1972-21872	19720510 <--
GB 1398277	A	19750618	GB 1974-45107	19720510 <--
US 3850853	A	19741126	US 1972-283039	19720823 <--
US 3888797	A	19750610	US 1973-357579	19730507 <--
PRIORITY APPLN. INFO.:			JP 1971-30391	A 19710510

JP	1972-9019	A	19720126
JP	1970-68145	A	19700804
JP	1971-30390	A	19710510
JP	1971-30394	A	19710510
US	1971-168413	A3	19710802
US	1972-250653	A3	19720505

AB Amphoteric surfactants are used for laundering textiles, cleaning carpets, and washing hair, foods, and glass. The surfactants do not irritate skin, and they give soft, antistatic textiles. The surfactants are  $C_{14}H_{29}CHOHCH_2NHCH_2CO_2Na$  (I),  $C_{10}H_{21}CHOHCH_2NHCH(CO_2Li)CH_2CH_2CO_2Li$ ,  $C_{16}H_{33}CHOHCH_2N[(CH_2CH_2O)_5H]CHMeCO_2NH_2(CH_2CH_2OH)_2$ ,  $C_{14}H_{29}CH[O(CH_2CH_2O)_pH]CH_2N[(CH_2CH_2O)_qH]CH(CO_2Na)CH_2CH_2CO_2Na$  ( $p + q = 20$ ),  $C_{16}H_{33}CHOHCH_2NH(CH_2)_3NHCH_2CH_2CO_2Na$ , and 51 similar compds. Thus, a mixture of I 10, Na metasilicate 5, soda ash 8, and Na sulfate decahydrate 77 parts is used (0.165%) in water to launder acrylic textiles, giving soft, clean, antistatic textiles.

IT 39329-96-9

RL: USES (Uses)

(amphoteric surfactants, detergent comps. containing)

RN 39329-96-9 HCAPLUS

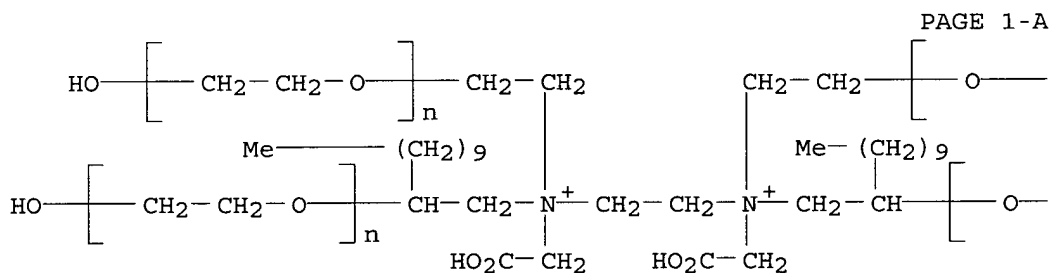
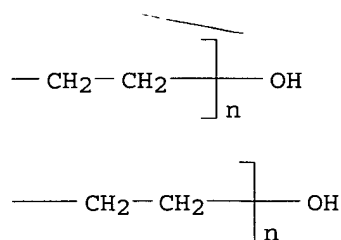
Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, ether with  
 N,N'-bis(carboxymethyl)-N,N'-bis(2-hydroxydodecyl)-N,N'-bis(2-  
 hydroxyethyl)-1,2-ethanediaminium dihydroxide, compd. with  
 2,2',2''-nitrilotris[ethanol] (4:1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 50973-04-1

$$\text{CMF} \quad (\text{C}_2 \text{H}_4 \text{O})_n \quad (\text{C}_2 \text{H}_4 \text{O})_n \quad (\text{C}_2 \text{H}_4 \text{O})_n \quad (\text{C}_2 \text{H}_4 \text{O})_n \quad \text{C}_{34} \text{H}_{70} \text{N}_2 \text{O}_8 \cdot 2 \text{H}_2\text{O}$$

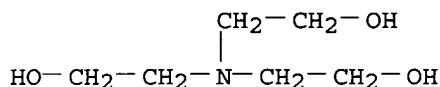
CCI PMS

 $\bullet_2 \text{ OH}^-$ 

CM 2

CRN 102-71-6

CMF C6 H15 N O3



L21 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972:474820 HCAPLUS

DOCUMENT NUMBER: 77:74820

TITLE: Antibacterial (2-hydroxyalkyl)benzylmethyammonium bromides

INVENTOR(S): Temple, Robert D.

PATENT ASSIGNEE(S): Procter and Gamble Co.

SOURCE: Ger. Offen., 30 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2151719	A	19720420	DE 1971-2151719	19711018 <--
US 3719711-	A -	19730306	US 1970-82067	19701019 <--
FR 2111700	A5	19720609	FR 1971-37370	19711018 <--
FR 2111700	B1	19750606		
GB 1322636	A	19730711	GB 1971-48369	19711018 <--
PRIORITY APPLN. INFO.:			US 1970-82067	A 19701019

GI For diagram(s), see printed CA Issue.

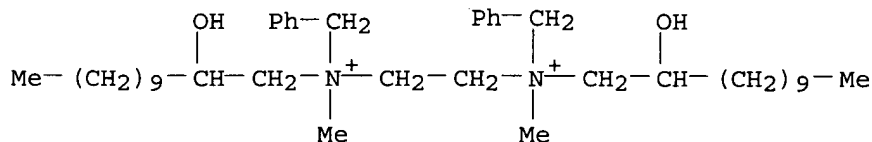
AB Six title compds.  $\text{RCH}_2\text{CH}(\text{OH}) - [\text{CH}_2\text{N}^+\text{Me}(\text{CH}_2\text{Ph})\text{CH}_2]_n\text{CH}(\text{OH})\text{CH}_2\text{R}$  Brn- (I; n = 2-4s R = C<sub>8</sub>H<sub>17</sub>O or C<sub>9</sub>H<sub>19</sub>), useful as antibact-dimethyl-ethylenediamine (II), N,N',N''-trimethyldiethylenetriamine, or N,N',N'',N'''-tetramethyltriethylenetetramine with III and PhCH<sub>2</sub>Br (IV). Thus, refluxing II and III (R = C<sub>8</sub>H<sub>17</sub>O) in EtOH 16 hr, addition of IV, and refluxing 24 hr gave I (R = C<sub>8</sub>H<sub>17</sub>O, n = 2).

IT 36557-86-5P 36557-87-6P 36557-88-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 36557-86-5 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N'-dimethyl-N,N'-bis(phenylmethyl)- (9CI) (CA INDEX NAME)

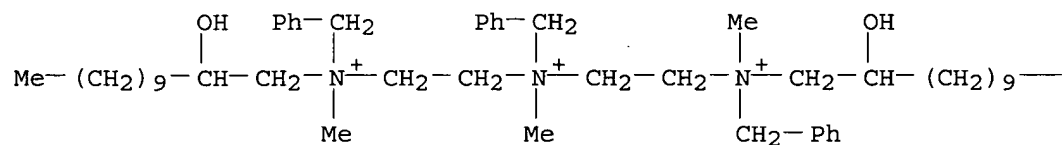


RN 36557-87-6 HCAPLUS

CN 1,2-Ethanediaminium, N-(2-hydroxydodecyl)-N'-[2-[(2-hydroxydodecyl)methyl(phenylmethyl)ammonio]ethyl]-N,N'-dimethyl-N,N'-

bis(phenylmethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



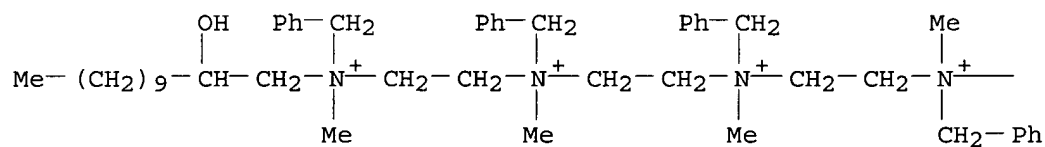
PAGE 1-B

— Me

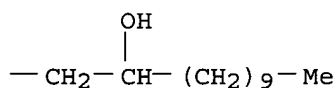
RN 36557-88-7 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-bis[2-[(2-hydroxydodecyl)methyl(phenylmethyl)ammonio]ethyl]-N,N'-dimethyl-N,N'-bis(phenylmethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 42 OF 46 HCAPLUS . COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972:407701 HCAPLUS

DOCUMENT NUMBER: 77:7701

TITLE: Detergent compositions containing an amphoteric surfactant

INVENTOR(S): Marumo, Hideo

SOURCE: Ger. Offen., 33 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

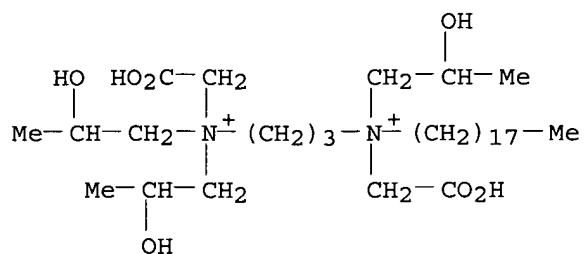
FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2139074	A	19720210	DE 1971-2139074	19710804 <--
DE 2139074	B2	19760826		
DE 2139074	C3	19770512		



JP 54001723	B4	19790129	JP 1970-68145	19700804 <--
JP 50013805	B4	19750522	JP 1971-30390	19710510 <--
JP 51018961	B4	19760614	JP 1971-30391	19710510 <--
GB 1361627	A	19740730	GB 1971-35890	19710730 <--
US 3719613	A	19730306	US 1971-168413	19710802 <--
GB 1398276	A	19750618	GB 1972-21872	19720510 <--
GB 1398277	A	19750618	GB 1974-45107	19720510 <--
US 3850853	A	19741126	US 1972-283039	19720823 <--
US 3888797	A	19750610	US 1973-357579	19730507 <--
PRIORITY APPLN. INFO.:			JP 1970-68145	A 19700804
			JP 1971-30390	A 19710510
			JP 1971-30391	A 19710510
			JP 1971-30394	A 19710510
			US 1971-168413	A3 19710802
			JP 1972-9019	A 19720126
			US 1972-250653	A3 19720505
AB	The title surfactants which impart antistatic properties and soil repellency to, e.g., textiles comprise at least 1 water-insol. metal salt of an amphoteric surfactant. Thus, 10 parts 1-(carboxymethyl)-2-heptadecyl-1-(2-hydroxymethyl)-2-imidazolinium hydroxide calcium salt (I) [13039-21-9] was heated and melted at 110.deg.; 2.2 parts II was added and stirred to make a homogeneous melt. Boiling water (87.8 parts) was added to thin the mixture. The mixture was homogenized and cooled to give a paste. An acrylic test fabric was soiled with oily soil prepared from molten paraffin nad soybean oil. The fabric was washed in a washing machine containing a small amount of the surfactant, rinsed, dried, and tested. The fabric sample had oil removal 98%, antistatic charge half-life 0.1 sec, surface resistance 2.3 .tim. 109 $\Omega$ , and soft hand compared with 72, .inf., >1015 and stiff hand for a sample similarly prepared but washed with a com. surfactant.			
IT	37222-59-6			
	RL: USES (Uses)			
	(antistatic and soil repelling agents, for textiles)			
RN	37222-59-6 HCAPLUS			
CN	1,3-Propanediaminium, N,N'-bis(carboxymethyl)-N,N,N'-tris(2-hydroxypropyl)-N'-octadecyl-, dihydroxide, barium salt (1:1), mixt. with $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ether with N-(carboxymethyl)-2-hydroxy-N-[3-[(2-hydroxydocosyl)(2-hydroxyethyl)amino]propyl]-N-(2-hydroxyethyl)-1-docosanaminium hydroxide (4:1) calcium salt (2:1) (9CI) (CA INDEX NAME)			
CM	1			
CRN	55852-77-2			
CMF	C34 H70 N2 O7 . Ba . 2 H O			



● Ba

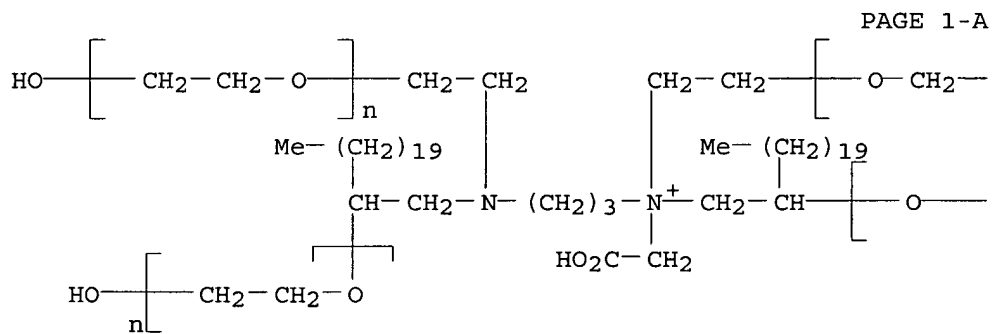
● 2 OH<sup>-</sup>

CM 2

CRN 37224-66-1

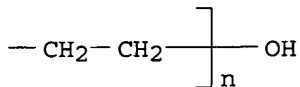
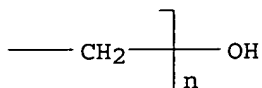
CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C53 H109 N2 O6 . 1/2 Ca .  
H O

CCI PMS



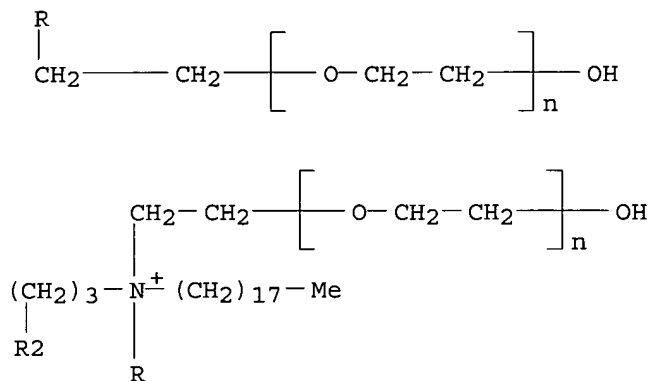
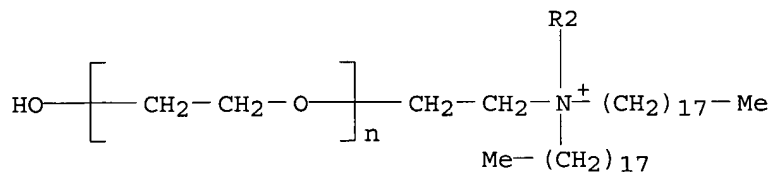
● 1/2 Ca

● OH<sup>-</sup>



L21 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1972:129208 HCAPLUS  
 DOCUMENT NUMBER: 76:129208  
 TITLE: Skin-cleaning agents for toilet soaps  
 PATENT ASSIGNEE(S): Unilever N. V.  
 SOURCE: Neth. Appl., 57 pp.  
 CODEN: NAXXAN  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Dutch  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	NL 7008839		19711221	NL	19700617 <--
AB	Toilet soaps which made skin feel smooth after washing contained .leq.15% of one or more poly(ethylene oxide)quaternary ammonium compds., which contained .geq.3 oxyethylene units per chain. Thus, 14:1 ethylene oxide-tallow alc. adduct was treated with epichlorohydrin in the presence of BF3.Et2O to give the chlorohydroxyethyl ether and then with dimethyloctadecylamine to give the quaternary ammonium chloride. These compds. dispersed Ca soaps, generally gave clear solns. with anionic surfactants, were not irritating to skin, and increased water absorption when applied to leather.				
IT	<b>36496-16-9</b>				
	RL: USES (Uses)				
	(toilet soaps containing, nonirritating)				
RN	36496-16-9 HCAPLUS				
CN	Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -hydroxy-, ether with N,N,N'-tris(2-hydroxyethyl)-N,N',N'-trioctadecyl-1,3-propanediaminium dibromide (3:1) (9CI) (CA INDEX NAME)				

● 2 Br<sup>-</sup>

L21 ANSWER 44 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1970:68522 HCAPLUS  
 DOCUMENT NUMBER: 72:68522  
 TITLE: Low-foaming detergents containing bisquaternary compounds  
 PATENT ASSIGNEE(S): Henkel und Cie. G.m.b.H.  
 SOURCE: Fr., 4 pp.  
 CODEN: FRXXAK  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
FR 1567214		19690516		<--
DE 1617126			DE	
PRIORITY APPLN. INFO.:			DE	19670301

GI For diagram(s), see printed CA Issue.  
 AB Mixts. of bisquaternary compds. (I), condensation products of ethylene oxide, and detergent alkalies (principally Na polyphosphates) are used as low-foaming detergents. I are prepared by tetra-substitution of diamines by the Leuckart-Wallach reaction and subsequent quaternization. In a typical formulation, 25% I (R<sub>1</sub> = R<sub>2</sub> = C<sub>18</sub>H<sub>37</sub>; R<sub>3</sub> = R<sub>4</sub> = R<sub>5</sub> = R<sub>6</sub> = Me; n = 12, X =

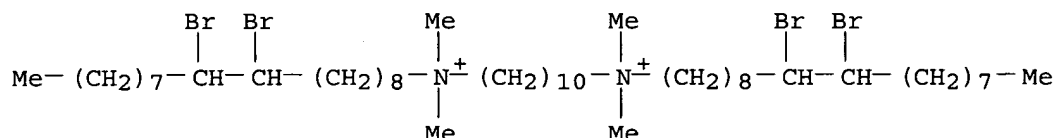
Cl), 25% of the addition product of ethylene oxide with oleyl alc., and 50% detergent alkalies are used. The detergents incorporate brightening ability, impart softness to the fabric, and are suitable for use in automatic washing machines.

IT 27200-76-6

RL: TEM (Technical or engineered material use); USES (Uses)  
(detergents containing)

RN 27200-76-6 HCAPLUS

CN Ammonium, decamethylenebis[(9,10-dibromooctadecyl)dimethyl-, dibromide  
(8CI) (CA INDEX NAME)



● 2 Br<sup>-</sup>

L21 ANSWER 45 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1965:479761 HCAPLUS

DOCUMENT NUMBER: 63:79761

ORIGINAL REFERENCE NO.: 63:14621e-h

TITLE: Betaines as fuel oil stabilizers

INVENTOR(S): Udelhofen, John H.

PATENT ASSIGNEE(S): Standard Oil Co.

SOURCE: 6 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

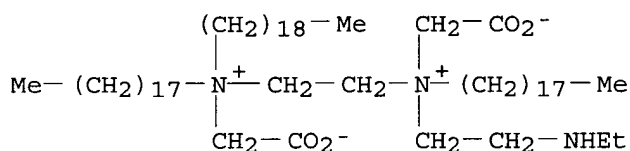
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3198613		19650803	US	19600505 <--
PRIORITY APPLN. INFO.:			US	19600505

AB Comps. of the general formula R<sub>1</sub>(R<sub>2</sub>)(R<sub>3</sub>)N<sup>+</sup>RCO<sub>2</sub><sup>-</sup> (I) (including its bis derivs.) and (-O<sub>2</sub>CRN<sup>+</sup>R<sub>2</sub>RCO<sub>2</sub>)<sub>n</sub>M (II) are antioxidants for heating oils. In I and II, R is a C<sub>1</sub>-4 alkylidene group (e.g. CH<sub>2</sub>), R<sub>1</sub> is an amino alkyl (eg. CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>) or an alkali- or alkaline earth-metal carboxylate group (e.g. CH<sub>2</sub>CO<sub>2</sub>Na), R<sub>2</sub> is a C<sub>10</sub>-22 alkyl group usually derived from natural fats and oils (e.g. hydroxygenated tallow fatty acid), R<sub>3</sub> may be either R<sub>1</sub> or R<sub>2</sub>, and M is an alkali or alkaline-earth metal of valence n (1 or 2). For example, a mixture of 5.94 g. N,N-ditallow-1,3-propylenediamine (Duomeen 2HT), 1.2 g. ClCH<sub>2</sub>CO<sub>2</sub>Na, and 1 crystal of KI (catalyst) in 30 ml. BuOH was refluxed 24 hrs. The mixture was filtered and vacuum distilled to remove the solvent. The filtrate yielded 6 g. N-(carboxymethyl)-N-(3-aminopropyl)-N,N-ditallowamine betaine (III). Similarly prepared were N(carboxybutyl)-N-(ethylaminoethyl)-N-ethyl-N-decylamine, N,N,N'-tristearyl- N' - ethylaminoethyl - N, N' -bis(carboxymethyl) ethylenediamine, N- (carboxymethyl) - N- tallow- N- methyl N-aminopropylamine, N - (carboxymethyl) - N, N- ditallow N-aminoethylaminoethylaminoethylamine, the mono-Na salt of N,N-bis(carboxymethyl)-N,N-ditallowamine (IV), the mono-K salt of N,N-bis(carboxybutyl)-N,N-didodecylamine, Ba bis[2-( N-tallow-N-methyl-N-

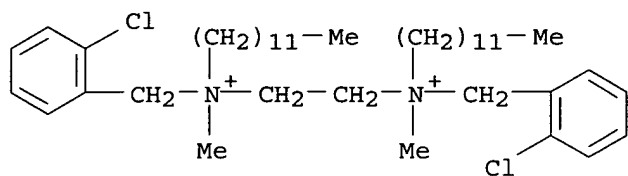
carboxymethylamino )acetate], and Ca bis[2-[N,N-dioleoyl-N-(carboxymethyl)amino]acetate]. A base furnace oil (V) was prepared from equal vols. of light catalytic cycle oil and virgin gas oil. To one sample was added 0.003 weight % III (sample A) and to another 0.01 weight % IV (sample B). All 3 samples were aged in the dark at 200°F. for 20 hrs., then at 70°F. for 48 hrs. and tested (sediment test (% insolubles), soluble gum test (%), water flocculation test (appearance), N.P.A. color test (color), and emulsification test (min.) given for V, A, and B, resp.): 4.6, 1.4, 0.5; 37.4, 18.6, 14.7; black, brown, light brown; 4+, 3.5, 3.5; 11.56, 33.

IT **856586-00-0**, Ammonium, N-[2-(ethylamino)ethyl]-N,N',N'-trioctadecyl-N,N'-ethylenebis[N-(carboxymethyl)-, hydroxide, bis(inner salt)]  
(preparation of)  
RN 856586-00-0 HCAPLUS  
CN Ammonium, N-[2-(ethylamino)ethyl]-N,N',N'-trioctadecyl-N,N'-ethylenebis[N-(carboxymethyl)-, hydroxide, bis(inner salt)] (7CI) (CA INDEX NAME)



L21 ANSWER 46 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1937:35400 HCAPLUS  
DOCUMENT NUMBER: 31:35400  
ORIGINAL REFERENCE NO.: 31:4992a-b  
TITLE: Quaternary ammonium compounds  
PATENT ASSIGNEE(S): I. G. Farbenindustrie AG  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 806662		19361222	FR	<--
AB	An aliphatic radical of high mol. weight is introduced into tertiary amines, substituted in the N by a halobenzene radical having an aliphatic bond, by the action of esters of aliphatic alcs. of high mol. weight Examples are given of the preparation of dimethyl(o-chlorobenzyl)octylammonium bromide, di-methyl(p-iodobenzyl)decylammonium bromide, di-methyl(3,4-dichlorobenzyl)dodecylammonium chloride, dimethyl(β-hydroxy-γ-dodecyloxypropyl) (trichlorobenzyl)ammonium chloride, diethyl(o-chlorobenzyl)dodecylthioethylammonium bromide, N-diethyl-N'-methyl-N'-(o-chlorobenzyl)-N,N'-dioctylethylenediammonium bromide, dimethyl(o-hydroxy-p-chlorobenzyl)octadecylammonium bromide and N,N'-dimethyl-N,N'-bis(o-chlorobenzyl)-N,N'-didodecylethylenediammonium chloride.			
IT	<b>857606-25-8</b> , Ammonium, ethylenebis, [o-chlorobenzyl]dodecylmethyl-chloride] (preparation of) RN 857606-25-8 HCAPLUS CN Ammonium, ethylenebis, [o-chlorobenzyl]dodecylmethyl- chloride] (4CI) (CA INDEX NAME)			



●2 Cl<sup>-</sup>

=> d stat que 125

L1 STR

C~~G2~~N~~G1~~N  
5 1 2 3 4

REP G1=(1-10) CH2

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L2 18869 SEA FILE=REGISTRY SSS FUL L1

L3 STR

C~~G2~~N C~~G2~~N  
5 1 2 8 7 6

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

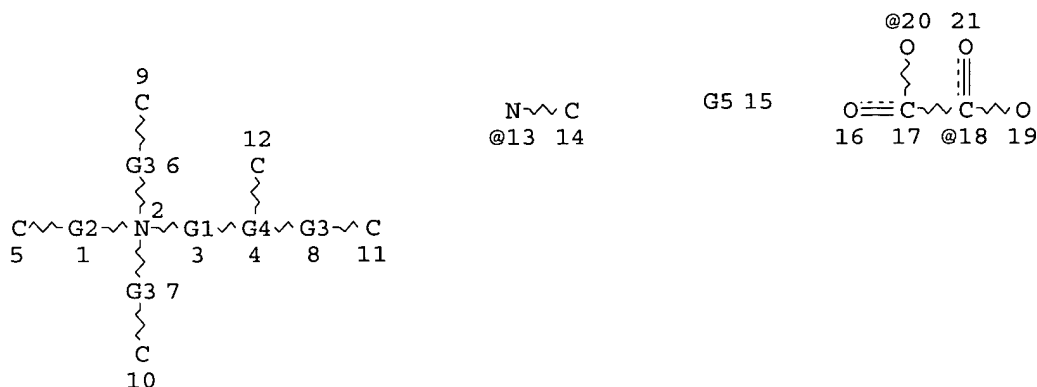
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L17 STR



REP G1=(1-10) CH2  
 REP G2=(7-19) C  
 REP G3=(0-5) C  
 VAR G4=NH/13  
 VAR G5=X/P/S/OH/20/18  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17  
 L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19  
 L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997  
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER  
 CHRISTOPH"/AU) NOT L21  
 L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19  
 L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23  
 L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22

=>  
=>

=> d ibib abs hitstr l25 1-2

L25 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:608442 HCAPLUS  
 DOCUMENT NUMBER: 133:190197  
 TITLE: Use of polycations in the stabilization and extraction  
 of nucleic acids  
 INVENTOR(S): **Erbacher, Christoph**; Bastian, Helge; Wyrich,  
 Ralf; Oelmuller, Uwe; Manz, Thomas  
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany  
 SOURCE: Eur. Pat. Appl., 49 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

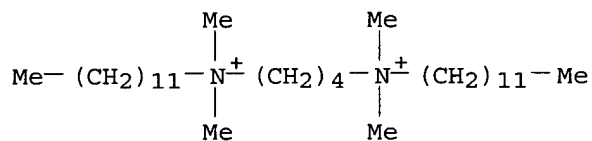


PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1031626	A1	20000830	EP 2000-103816	20000223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2299119	AA	20000823	CA 2000-2299119	20000222
JP 2000342259	A2	20001212	JP 2000-45524	20000223
PRIORITY APPLN. INFO.:			EP 1999-103457	A 19990223

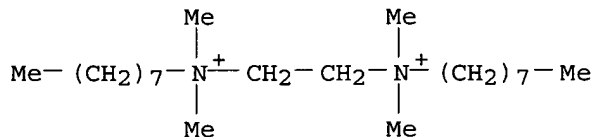
AB Polycations that can be used to stabilize nucleics during extraction and purification are described. The compds. have two closely-linked cationic centers, preferably nitrogens. Complexes between these polycations and nucleic acids are larger and sediment more rapidly than those prepared with prior art cationic polymers such as tetradecyltrimethylammonium oxalate. Use of the reagents to purify DNA and RNA from a number of sources is demonstrated.

IT 6309-01-9P 15590-93-9P 18464-23-8P  
 21948-95-8P 21948-96-9P 29104-93-6P  
 29908-17-6P 40661-04-9P 40661-10-7P  
 71753-44-1P 71753-45-2P 75174-83-3P  
 86009-95-2P 87723-15-7P 114669-76-0P  
 114669-77-1P 157782-11-1P 207726-16-7P  
 207726-17-8P 207726-18-9P 207726-19-0P  
 254106-19-9P 289618-11-7P 289618-12-8P  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (preparation and use in nucleic acid purification of; use of polycations in stabilization and extraction of nucleic acids)

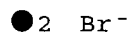
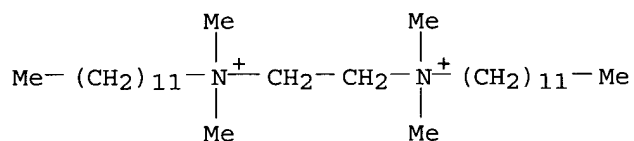
RN 6309-01-9 HCAPLUS  
 CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

● 2 Br<sup>-</sup>

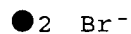
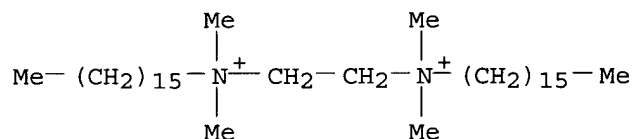
RN 15590-93-9 HCAPLUS  
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 (CA INDEX NAME)

● 2 Br<sup>-</sup>

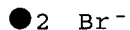
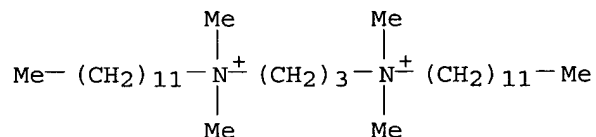
RN 18464-23-8 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide  
(9CI) (CA INDEX NAME)

RN 21948-95-8 HCAPLUS

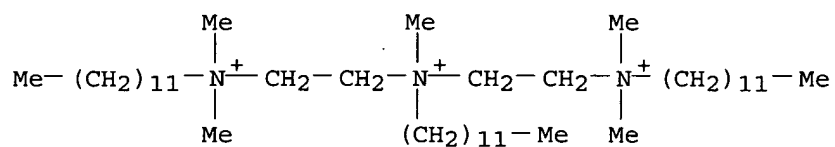
CN 1,2-Ethanediaminium, N,N'-dihexadecyl-N,N,N',N'-tetramethyl-, dibromide  
(9CI) (CA INDEX NAME)

RN 21948-96-9 HCAPLUS

CN 1,3-Propanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide  
(9CI) (CA INDEX NAME)

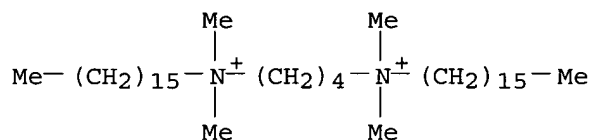
RN 29104-93-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didodecyl-N-[2-(dodecylmethyllummonio)ethyl]-  
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

●3 Br<sup>-</sup>

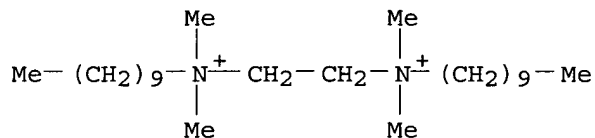
RN 29908-17-6 HCAPLUS

CN 1,4-Butanediaminium, N,N'-dihexadecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

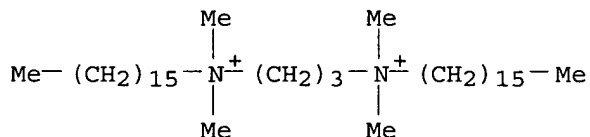
RN 40661-04-9 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

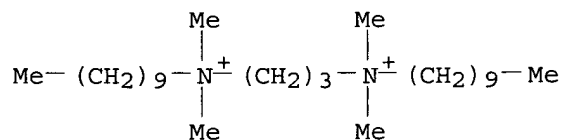
●2 Br<sup>-</sup>

RN 40661-10-7 HCAPLUS

CN 1,3-Propanediaminium, N,N'-dihexadecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

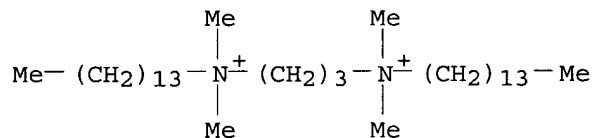
●2 Br<sup>-</sup>

RN 71753-44-1 HCAPLUS  
 CN 1,3-Propanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dibromide (9CI)  
 (CA INDEX NAME)



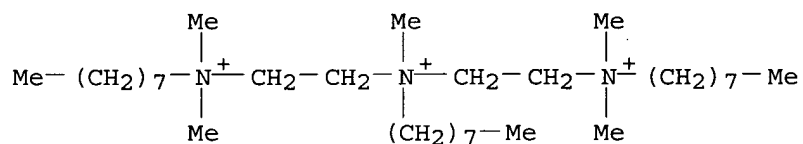
●2 Br<sup>-</sup>

RN 71753-45-2 HCAPLUS  
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 (9CI) (CA INDEX NAME)



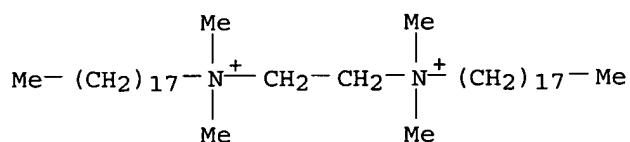
●2 Br<sup>-</sup>

RN 75174-83-3 HCAPLUS  
 CN 1,2-Ethanediaminium, N-[2-(dimethyloctylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctyl-, tribromide (9CI) (CA INDEX NAME)



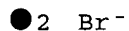
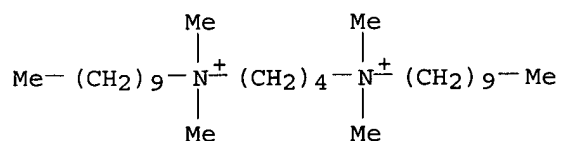
●3 Br<sup>-</sup>

RN 86009-95-2 HCAPLUS  
 CN 1,2-Ethanediaminium, N,N,N',N'-tetramethyl-N,N'-dioctadecyl-, dibromide  
 (9CI) (CA INDEX NAME)



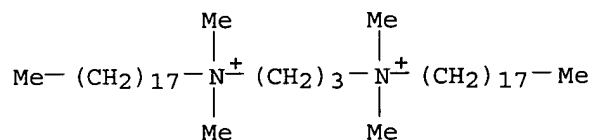
RN 87723-15-7 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dibromide (9CI)  
(CA INDEX NAME)



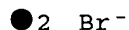
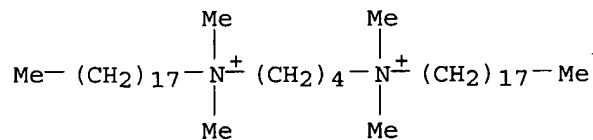
RN 114669-76-0 HCAPLUS

CN 1,3-Propanediaminium, N,N,N',N'-tetramethyl-N,N'-dioctadecyl-, dibromide  
(9CI) (CA INDEX NAME)

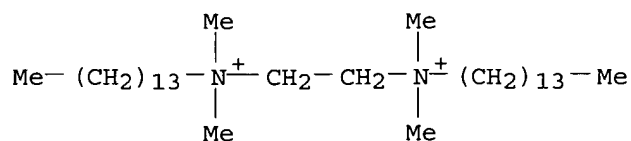


RN 114669-77-1 HCAPLUS

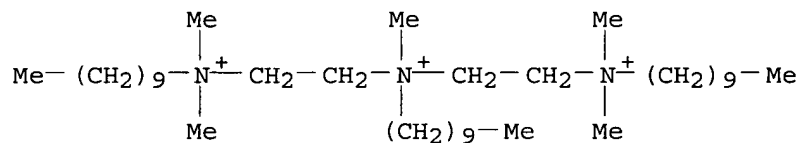
CN 1,4-Butanediaminium, N,N,N',N'-tetramethyl-N,N'-dioctadecyl-, dibromide  
(9CI) (CA INDEX NAME)



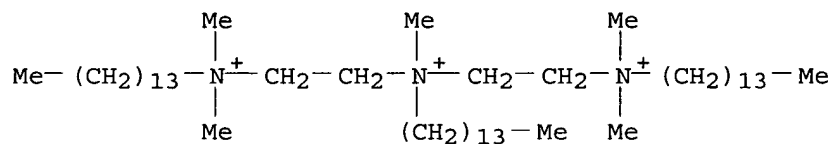
RN 157782-11-1 HCAPLUS

CN 1,2-Ethanediaminium, N,N,N',N'-tetramethyl-N,N'-ditetradecyl-, dibromide  
(9CI) (CA INDEX NAME)●2 Br<sup>-</sup>

RN 207726-16-7 HCAPLUS

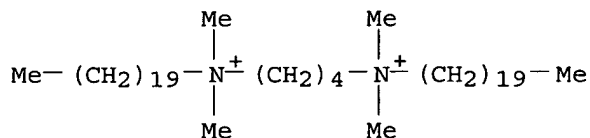
CN 1,2-Ethanediaminium, N,N'-didecyl-N-[2-(decyldimethylammonio)ethyl]-  
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)●3 Br<sup>-</sup>

RN 207726-17-8 HCAPLUS

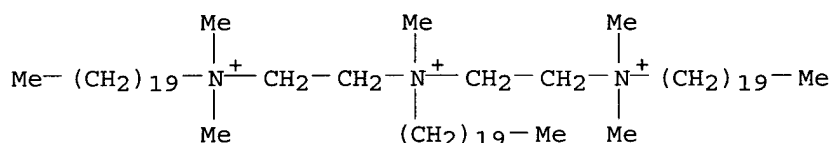
CN 1,2-Ethanediaminium, N-[2-(dimethyltetradecylammonio)ethyl]-N,N',N'-  
trimethyl-N,N'-ditetradecyl-, tribromide (9CI) (CA INDEX NAME)●3 Br<sup>-</sup>

RN 207726-18-9 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-dihexadecyl-N-[2-(hexadecyldimethylammonio)ethyl]-  
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

●2 Br<sup>-</sup>

RN 289618-12-8 HCAPLUS  
 CN 1,2-Ethanediaminium, N,N'-dieicosyl-N-[2-(eicosyldimethylammonio)ethyl]-  
 N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

●3 Br<sup>-</sup>

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:323162 HCAPLUS

DOCUMENT NUMBER: 129:19654

TITLE: Cationic reagents for transfection

INVENTOR(S): **Erbacher, Christoph**; Weber, Martin

PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany; Erbacher, Christoph; Weber, Martin

SOURCE: PCT Int. Appl., 29 pp.

CODEN: PIXXD2

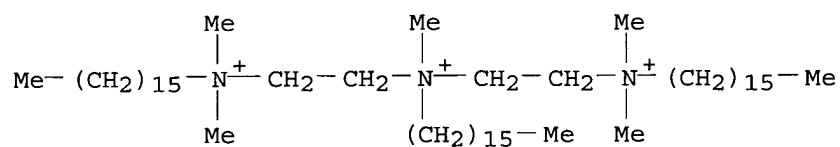
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

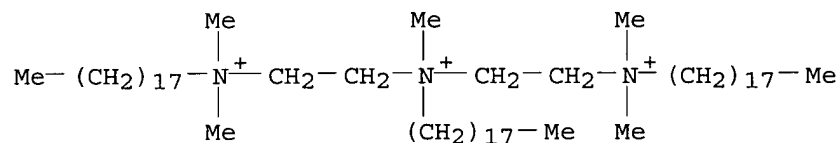
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819709	A2	19980514	WO 1997-EP6035	19971103
WO 9819709	A3	19980730		
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2270396	AA	19980514	CA 1997-2270396	19971103
AU 9853156	A1	19980529	AU 1998-53156	19971103
AU 738384	B2	20010920		
EP 1003556	A2	20000531	EP 1997-950064	19971103
R: BE, CH, DE, DK, FR, GB, LI, LU, NL, SE				
JP 2001503751	T2	20010321	JP 1998-520843	19971103
US 2001048939	A1	20011206	US 1999-304995	19990504
US 6733777	B2	20040511		



●3 Br<sup>-</sup>

RN 207726-19-0 HCAPLUS

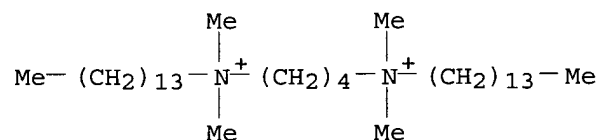
CN 1,2-Ethanediaminium, N-[2-(dimethyloctadecylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctadecyl-, tribromide (9CI) (CA INDEX NAME)



●3 Br<sup>-</sup>

RN 254106-19-9 HCAPLUS

CN 1,4-Butanediaminium, N,N,N',N'-tetramethyl-N,N'-ditetradecyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br<sup>-</sup>

RN 289618-11-7 HCAPLUS

CN 1,4-Butanediaminium, N,N'-dieicosyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



US 2004077582	A1	20040422	US 2003-721532	20031125
PRIORITY APPLN. INFO.:			US 1996-30315P	P 19961104
			WO 1997-EP6035	W 19971103
			US 1999-304995	A3 19990504

OTHER SOURCE(S): MARPAT 129:19654

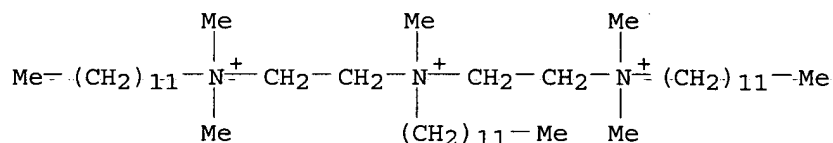
AB The present invention relates to cationic cytofectins and liposomes comprising the same for use in delivering exogenous compds. into cells in vitro and in vivo. The liposome may comprise: (a) a neutral lipid such as dioleoylphosphatidylethanolamine (DOPE) or similar lipid-like compds. such as 1,2-dioleoyloxyphosphatidylethanolamine or other lipid-like structures and (b) one or more of the cationic cytofectins provided herein. The present invention also provides transfection kits and methods of delivery comprising the same.

IT 29104-93-6P 61746-24-5P 75174-83-3P  
 87959-22-6P 207726-16-7P 207726-17-8P  
 207726-18-9P 207726-19-0P 207726-20-3P  
 207726-21-4P 207726-22-5P 207726-23-6P,  
 biological studies

RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
 (cationic cytofectin reagents for transfection)

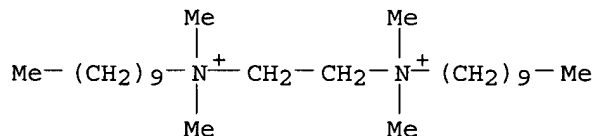
RN 29104-93-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didodecyl-N-[2-(dodecylmethyllummonio)ethyl]-N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

●3 Br<sup>-</sup>

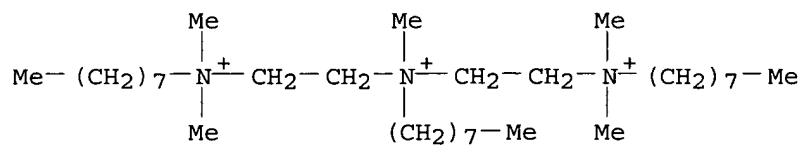
RN 61746-24-5 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dichloride (9CI)  
 (CA INDEX NAME)

●2 Cl<sup>-</sup>

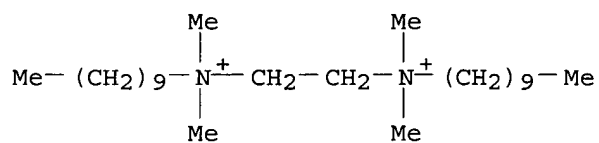
RN 75174-83-3 HCAPLUS

CN 1,2-Ethanediaminium, N-[2-(dimethyloctylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctyl-, tribromide (9CI) (CA INDEX NAME)



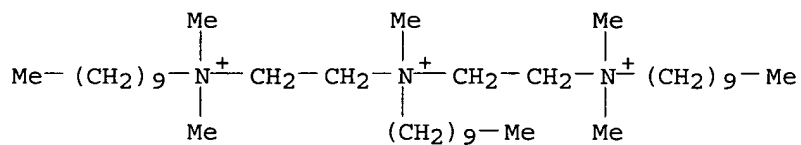
●3 Br<sup>-</sup>

RN 87959-22-6 HCAPLUS  
CN 1,2-Ethanediaminium, N,N'-didecyl-N,N',N'-tetramethyl-, diiodide (9CI)  
(CA INDEX NAME)



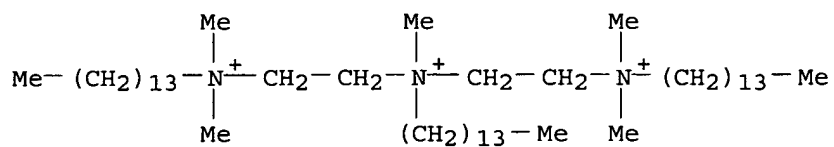
●2 I<sup>-</sup>

RN 207726-16-7 HCAPLUS  
CN 1,2-Ethanediaminium, N,N'-didecyl-N-[2-(decyldimethylammonio)ethyl]-  
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)



●3 Br<sup>-</sup>

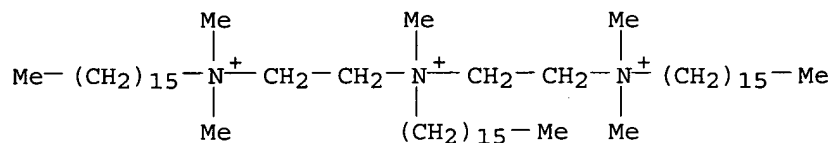
RN 207726-17-8 HCAPLUS  
CN 1,2-Ethanediaminium, N-[2-(dimethyltetradecylammonio)ethyl]-N,N',N'-  
trimethyl-N,N'-ditetradecyl-, tribromide (9CI) (CA INDEX NAME)



●3 Br<sup>-</sup>

RN 207726-18-9 HCAPLUS

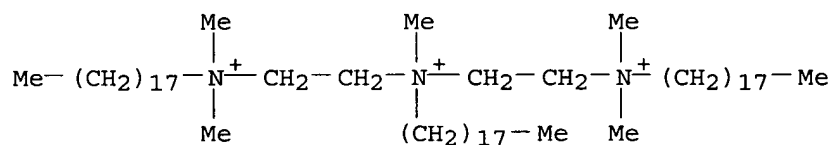
CN 1,2-Ethanediaminium, N,N'-dihexadecyl-N-[2-(hexadecyldimethylammonio)ethyl]-N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)



●3 Br<sup>-</sup>

RN 207726-19-0 HCAPLUS

CN 1,2-Ethanediaminium, N-[2-(dimethyloctadecylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctadecyl-, tribromide (9CI) (CA INDEX NAME)



●3 Br<sup>-</sup>

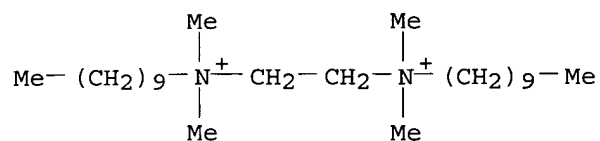
RN 207726-20-3 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, phosphate (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4

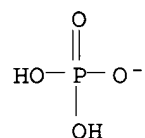
CMF C26 H58 N2



CM 2

CRN 14066-20-7

CMF H2 O4 P



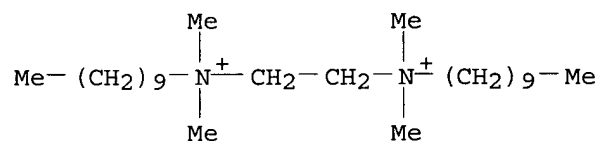
RN 207726-21-4 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, salt with thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4

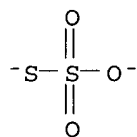
CMF C26 H58 N2



CM 2

CRN 14383-50-7

CMF O3 S2



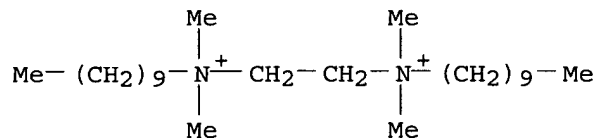
RN 207726-22-5 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, sulfate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4

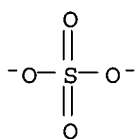
CMF C26 H58 N2



CM 2

CRN 14808-79-8

CMF O4 S



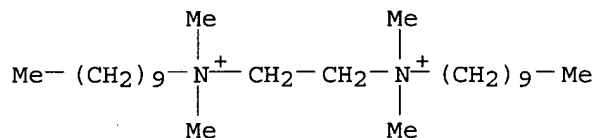
RN 207726-23-6 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, ethanedioate  
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4

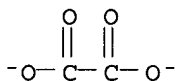
CMF C26 H58 N2



CM 2

CRN 338-70-5

CMF C2 O4



=&gt; =&gt; d stat que 126 nos

L1 STR

L2 18869 SEA FILE=REGISTRY SSS FUL L1

L3 STR

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L17 STR  
 L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17  
 L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19  
 L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997  
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER  
 CHRISTOPH"/AU) NOT L21  
 L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19  
 L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23  
 L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22  
 L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25

=> d ibib abs l26 1-7

L26 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:772574 HCAPLUS  
 TITLE: Flow cell for the passive mixing of flowable  
 substances  
 INVENTOR(S): **Erbacher, Christoph**; Manz, Andreas  
 PATENT ASSIGNEE(S): Ciba-Geigy Ag, Switz.  
 SOURCE: PCT Int. Appl., No pp. given  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9700125	A1	19970103	WO 1996-EP2425	19960604
W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9660051	A1	19970115	AU 1996-60051	19960604
EP 833688	A1	19980408	EP 1996-917497	19960604
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
ZA 9605075	A	19961217	ZA 1996-5075	19960614
PRIORITY APPLN. INFO.:			EP 1995-810405	A 19950616
			WO 1996-EP2425	W 19960604

AB Unavailable

L26 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:724977 HCAPLUS  
 TITLE: Flow cell sensor apparatus and optical detection  
 device for analytical measurements on flowable samples  
 and methods of carrying out analytical and optical  
 analytical measurements on flowable samples  
 INVENTOR(S): Oroszlan, Peter; **Erbacher, Christoph**;  
 Duveneck, Gert Ludwig; Verpoorte, Elisabeth  
 PATENT ASSIGNEE(S): Ciba-Geigy A.G.  
 SOURCE: S. African, No pp. given  
 CODEN: SFXXAB  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 9605271	A	19961223	ZA 1996-5271	19960621
PRIORITY APPLN. INFO.:			CH 1995-1853	A 19950623
AB	Unavailable			

L26 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:762854 HCAPLUS  
 DOCUMENT NUMBER: 135:308854  
 TITLE: Targeted transfection of cells using a biotinylated dendrimer  
 INVENTOR(S): Weber, Martin; Dennig, Joerg; **Erbacher, Christoph**  
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany  
 SOURCE: PCT Int. Appl., 45 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001076633	A2	20011018	WO 2001-EP3746	20010403
WO 2001076633	A3	20020214		
W: US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10016881	A1	20011018	DE 2000-10016881	20000405
EP 1274462	A2	20030115	EP 2001-936172	20010403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003096280	A1	20030522	US 2002-240981	20021004
PRIORITY APPLN. INFO.:			DE 2000-10016881	A 20000405
			WO 2001-EP3746	W 20010403

AB The invention relates to a method for carrying out the targeted transfection of cells, to compns., which can be used for such methods, and to corresponding medicaments for use in gene therapy. The invention particularly relates to a method for introducing nucleic acid into cells involving the following steps: (a) mixing a nucleic acid with a dendrimer, whereby a portion of the dendrimer mols. is biotinylated; mixing the prepared complex, which consists of a nucleic acid and a dendrimer, with a second complex, which consists of an avidin or a streptavidin and of a biotinylated target-specific binding mol., and; (c) incubating the complex prepared in step (b) with cells. Dendrimers that are well-suited for the invention are, for example, partially solvolyzed polyamidoamine (PAMAM) dendrimers. Target-specific binding mols. are, in particular, cell type-specific markers also of the cell surface of the target cells.

L26 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:657486 HCAPLUS  
 DOCUMENT NUMBER: 135:211443  
 TITLE: Acrylic polymers anion exchangers and their use in chromatographic procedures  
 INVENTOR(S): **Erbacher, Christoph**  
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany  
 SOURCE: Ger. Offen., 28 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10009982	A1	20010906	DE 2000-10009982	20000303
CA 2400722	AA	20010907	CA 2001-2400722	20010216
WO 2001064342	A1	20010907	WO 2001-EP1791	20010216
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1259322	A1	20021127	EP 2001-903780	20010216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2003525119	T2	20030826	JP 2001-563232	20010216
US 2003171443	A1	20030911	US 2002-220657	20021223
PRIORITY APPLN. INFO.:				
			DE 2000-10009982	A 20000303
			WO 2001-EP1791	W 20010216

AB Anion exchanger polymers, useful for purification and chromatog. separation of nucleic acids, are manufactured by polymerization of  $\geq 1$  CH<sub>2</sub>:R<sub>1</sub>COXYNR<sub>2</sub>R<sub>3</sub> [R<sub>1</sub> = H, Me, or Et; R<sub>2</sub>, R<sub>3</sub> = H or (OH-substituted) C<sub>1-3</sub> alkyl; X = OH, NH, or NR<sub>4</sub>; R<sub>4</sub> = C<sub>1-3</sub> alkyl; Y = (CH<sub>2</sub>)<sub>m</sub>(CH<sub>2</sub>O)<sub>n</sub>; m, n = 0-6; m + n > 0; 1 or both of H's of Y = C<sub>1-3</sub> alkyl or CH<sub>2</sub>:CR<sub>1</sub>COX<sub>2</sub>; X = O or NH] with  $\geq 1$  CH<sub>2</sub>:CR<sub>5</sub>COQ<sub>1</sub>ZQ<sub>2</sub>COCR<sub>6</sub>:CH<sub>2</sub> [R<sub>5</sub>, R<sub>6</sub> = H, Me, or Et; Q<sub>1</sub>, Q<sub>2</sub> = O or NH; Z = [(CH<sub>2</sub>)<sub>o</sub>]p(CH<sub>2</sub>)q; o, p, q = 0-3; o + p + q > 0;  $\geq 1$  H in Z = C<sub>1-3</sub> alkyl or [(CH<sub>2</sub>)<sub>r</sub>]s(CH<sub>2</sub>)tNR<sub>8</sub>R<sub>9</sub>; r, s, t = 0-6; r + s + t > 0; R<sub>8</sub>, R<sub>9</sub> = H or (OH-substituted) C<sub>1-3</sub> alkyl].

L26 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:438982 HCAPLUS

DOCUMENT NUMBER: 131:89429

TITLE: Towards integrated continuous-flow chemical reactors

AUTHOR(S): **Erbacher, Christoph**; Bessoth, Fiona G.; Busch, Michael; Verpoorte, Elisabeth; Manz, Andreas

CORPORATE SOURCE: Novartis Pharma, Basel, CH-4002, Switz.

SOURCE: Mikrochimica Acta (1999), 131(1-2), 19-24

CODEN: MIACAQ; ISSN: 0026-3672

PUBLISHER: Springer-Verlag Wien

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A device for rapid mixing of two solns. is presented. As the main mechanism for mixing is diffusional mass transport, the flow has to be split into several laminae which are narrower than the capillary width. Complete mixing is achieved within a few seconds in a flow-through device with a channel system that is 600  $\mu$ m wide at its narrowest spot.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:195239 HCAPLUS

DOCUMENT NUMBER: 120:195239

TITLE: Preparation of powders and suspensions of amorphous silicon dioxide microspheres

INVENTOR(S): Kovats, Ervin; Jelinek, Laszlo; **Erbacher, Christoph**

PATENT ASSIGNEE(S): CU Chemie Uetikon AG, Switz.

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English



FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 574642	A1	19931222	EP 1992-810471	19920619
EP 574642	B1	19981028		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 172695	E	19981115	AT 1992-810471	19920619
JP 07277725	A2	19951024	JP 1993-172511	19930617
PRIORITY APPLN. INFO.:			EP 1992-810471	A 19920619

AB Microporous, spherical poly(silicic acid) particles are prepared by hydrolysis of tetraalkoxysilane in a MeOH or EtOH containing 1-5 mol/L ammonia, 2-12 mol/L water, and 1015-1020 L-1 seed particles, evaporation of the liquid part of the final mixture or sedimentation in low centrifugal fields, and drying of the isolated product to give a slightly agglomerated powder. The dried powders are calcined to give spherical SiO<sub>2</sub> particles. The particles are used for model studies in colloid science.

L26 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:92396 HCAPLUS

DOCUMENT NUMBER: 110:92396

TITLE: Aggregation response of European engraver beetles of the genus *Ips* mediated by terpenoid pheromones

AUTHOR(S): Kohnle, U.; Vite, J. P.; Erbacher, C.; Bartels, J.; Francke, W.

CORPORATE SOURCE: Forstzool. Inst., Freiburg, 7800, Fed. Rep. Ger.

SOURCE: Entomologia Experimentalis et Applicata (1988), 49(1-2), 43-53

CODEN: ETEAAT; ISSN: 0013-8703

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Upon exposure to vapors of the host trees monoterpene (-)- $\alpha$ -pinene, *Ips acuminatus* produces the terpene alc. cis-verbenol which, besides ipsdienol and ipsenol, is a component of its aggregation pheromone. *I. cembrae* transforms the same monoterpene predominantly into myrtenol and trans-verbenol, but little into cis verbenol, which interrupts pheromone response under field conditions. On the other hand, *I. cembrae* releases, upon feeding in the bark, the terpene alc. amitinol in major amts. Amitinol significantly enhances field response to the aggregation pheromone that also includes ipsdienol, ipsenol, and 3-methyl-3-buten-1-ol. However, amitinol reduces pheromone response in *I. acuminatus* and *I. erosus*. Also, males of *I. sexdentatus* release amitinol which appears to increase response to its attractive principle pheromone component, racemic ipsdienol. There is some evidence that present knowledge of the chemical communication systems among European *Ips* species still lacks satisfactory explanation of the naturally occurring aggregation en masse, perhaps with the exception of *I. erosus* and *I. typographus*.

=&gt; =&gt; d stat que nos

L1 STR

L2 18869 SEA FILE=REGISTRY SSS FUL L1

L3 STR

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L17 STR

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17

L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19

L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=&lt;DECEMBER 1, 1997

L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER

CHRISTOPH"/AU) NOT L21

L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19

L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23

L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22

L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25

L27 1630 SEA FILE=HCAPLUS ABB=ON PLU=ON ("WEBER M"/AU OR "WEBER M A"/AU OR "WEBER M A J"/AU OR "WEBER M B"/AU OR "WEBER M B I"/AU OR "WEBER M C"/AU OR "WEBER M D"/AU OR "WEBER M E"/AU OR "WEBER M F"/AU OR "WEBER M G"/AU OR "WEBER M H"/AU OR "WEBER M J"/AU OR "WEBER M JR"/AU OR "WEBER M K"/AU OR "WEBER M L"/AU OR "WEBER M M"/AU OR "WEBER M O"/AU OR "WEBER M P"/AU OR "WEBER M R"/AU OR "WEBER M S"/AU) OR WEBER MARTIN?/AU

L28 0 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 AND L24) NOT (L25 OR L26 OR L21)

L29 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND CYTOFECT?

L30 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L29

=> d ibib abs l30 1

L30 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:323162 HCAPLUS

DOCUMENT NUMBER: 129:19654

TITLE: Cationic reagents for transfection

INVENTOR(S): Erbacher, Christoph; **Weber, Martin**

PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany; Erbacher, Christoph; Weber, Martin

SOURCE: PCT Int. Appl., 29 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819709	A2	19980514	WO 1997-EP6035	19971103
WO 9819709	A3	19980730		
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2270396	AA	19980514	CA 1997-2270396	19971103
AU 9853156	A1	19980529	AU 1998-53156	19971103
AU 738384	B2	20010920		
EP 1003556	A2	20000531	EP 1997-950064	19971103
R: BE, CH, DE, DK, FR, GB, LI, LU, NL, SE				
JP 2001503751	T2	20010321	JP 1998-520843	19971103
US 2001048939	A1	20011206	US 1999-304995	19990504
US 6733777	B2	20040511		
US 2004077582	A1	20040422	US 2003-721532	20031125
PRIORITY APPLN. INFO.:				P 19961104
				WO 1997-EP6035 W 19971103
				US 1999-304995 A3 19990504

OTHER SOURCE(S): MARPAT 129:19654

AB The present invention relates to cationic **cytofectins** and liposomes comprising the same for use in delivering exogenous compds. into cells in vitro and in vivo. The liposome may comprise: (a) a neutral lipid such as dioleoylphosphatidylethanolamine (DOPE) or similar lipid-like compds. such as 1,2-dioleoyloxyphosphatidylethanolamine or other lipid-like structures and (b) one or more of the cationic **cytofectins** provided herein. The present invention also provides

transfection kits and methods of delivery comprising the same.

=> => d stat que

L1 STR

C~~G2~N~G1~N  
5 1 2 3 4

REP G1=(1-10) CH2

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L2 18869 SEA FILE=REGISTRY SSS FUL L1

L3 STR

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5 1 2 8 7 6

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

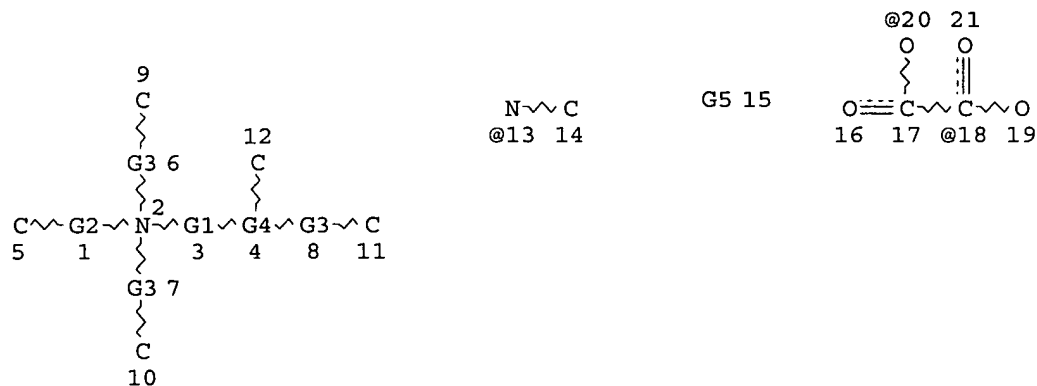
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L17 STR



REP G1=(1-10) CH2

REP G2=(7-19) C

REP G3=(0-5) C

VAR G4=NH/13

VAR G5=X/P/S/OH/20/18

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17  
 L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19  
 L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997  
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER  
 CHRISTOPH"/AU) NOT L21  
 L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19  
 L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23  
 L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22  
 L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25  
 L27 1630 SEA FILE=HCAPLUS ABB=ON PLU=ON ("WEBER M"/AU OR "WEBER M  
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 I"/AU OR "WEBER M C"/AU OR "WEBER M D"/AU OR "WEBER M E"/AU OR  
 "WEBER M F"/AU OR "WEBER M G"/AU OR "WEBER M H"/AU OR "WEBER M  
 J"/AU OR "WEBER M JR"/AU OR "WEBER M K"/AU OR "WEBER M L"/AU  
 OR "WEBER M M"/AU OR "WEBER M O"/AU OR "WEBER M P"/AU OR  
 "WEBER M R"/AU OR "WEBER M S"/AU) OR WEBER MARTIN?/AU  
 L28 0 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 AND L24) NOT (L25 OR L26  
 OR L21)  
 L29 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND CYTOFECT?  
 L30 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L29  
 L31 441 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 AND ?FECT?) NOT (L25 OR  
 L26 OR L21 OR L30)  
 L32 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND TRANSFECT?

=> d ibib abs l32 1-13

L32 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:692661 HCAPLUS

DOCUMENT NUMBER: 142:62439

TITLE: Dendritic polyamines: Simple access to new materials  
 with defined treelike structures for application in  
 nonviral gene delivery

AUTHOR(S): Kraemer, Michael; Stumbe, Jean-Francois; Grimm,  
 Guenther; Kaufmann, Brigitte; Krueger, Ute;  
**Weber, Martin**; Haag, Rainer

CORPORATE SOURCE: Freiburger Materialforschungszentrum und Institut fuer  
 Makromolekulare Chemie, Universitaet Freiburg,  
 Freiburg, 79104, Germany

SOURCE: ChemBioChem (2004), 5(8), 1081-1087

CODEN: CBCHFX; ISSN: 1439-4227

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polycationic dendrimers are interesting nonviral vectors for in vitro DNA  
 delivery. We describe a simple approach to the synthesis of dendritic  
 polyamines with different mol. wts. and adjustable flexibility (degrees of  
 branching; DB). Both parameters influence the **transfection**  
 efficiency and the cell toxicity of the polymer. Functionalization of  
 hyperbranched polyethylenimine (PEI) by a two-step procedure generated  
 fully branched pseudodendrimers (analogs of polypropylenimine (PPI) and  
 polyamidoamine (PAMAM) dendrimers). The DNA **transfection**

efficiencies observed for these polymers depended on the cell line investigated. The highest efficiencies were observed for polymers whose unfunctionalized PEI cores had mol. wts. in the range  $M_w = 6000-25\,000\text{ g mol}^{-1}$ . The cytotoxicity of the dendrimers generally rises with increasing core size. The data collected for NIH/3T3 and COS-7 cells indicate a maximum **transfection** efficiency at around 60% branching for the PPI analogs, and at a PEI-core mol. weight of  $M_w = 25\,000\text{ g mol}^{-1}$ . PAMAM functionalization of PEI ( $M_w = 5000$  and  $21\,000\text{ g mol}^{-1}$ ) leads to polymers with little or no cytotoxicity in the cell lines investigated.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:98854 HCAPLUS

DOCUMENT NUMBER: 140:215193

TITLE: Increased activity of catalase in tumor cells overexpressing IGFBP-2

AUTHOR(S): Hoeflich, A.; Fetscher, O.; Preta, G.; Lahm, H.; Kolb, H. J.; Wolf, E.; Weber, M. M.

CORPORATE SOURCE: Lehrstuhl fuer Molekulare Tierzucht und Biotechnologie/Genzentrum, Ludwig-Maximilians-Universitaet, Munich, Germany

SOURCE: Hormone and Metabolic Research (2003), 35(11/12), 816-821

CODEN: HMMRA2; ISSN: 0018-5043

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Elevated levels of IGFBP-2 are found in serum and tissues under various stressful conditions and in many malignancies. In previous studies, we have shown that overexpression of IGFBP-2 results in increased tumorigenic potential in Y-1 mouse adrenocortical tumor cells, and that these **effects** are presumably mediated through IGF-independent mechanisms. Here, we show that highly proliferative IGFBP-2-overexpressing Y-1 cells, but not control Y-1 cells, grow to very high cell densities. In order to evaluate whether the increased cell densities in IGFBP-2-**transfected** Y-1 cells were accompanied by alterations in the oxidative stress system, we analyzed the **effect** of IGFBP-2 overexpression on the activity of various antioxidative enzymes in two malignant cell lines. Among the tested antioxidative enzymes (catalase, superoxide-dismutase, glutathione peroxidase, glutathione S-transferase), only catalase enzyme activity was significantly higher in IGFBP-2-**transfected** Y-1 mouse adrenocortical tumor cells and in IGFBP-2-**transfected** human colon tumor cells (Caco-2) compared to control-**transfected** Y-1 and Caco-2 cells and non-tumor 293 human epithelial cells. However, overexpression of catalase in malignant cells did not result in increased resistance to oxidative stress as measured by cell viability and protein oxidation after treatment of the cells with hydrogen peroxide. This might be due to an upregulation of the GST enzyme activity after treatment with  $H_2O_2$  that we observed selectively in the control-**transfected** Y-1 cells and which might compensate for the higher catalase activity in the IGFBP-2 overexpressing cells. In summary, we found a strong and selective upregulation of the catalase activity in IGFBP-2 overexpressing malignant Y-1 and Caco-2 cell lines that might contribute to the highly malignant phenotype of IGFBP-2 overexpressing tumors through as yet unknown mechanisms.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:175965 HCAPLUS  
 DOCUMENT NUMBER: 139:312273  
 TITLE: Fabrication of homogeneously cross-linked, functional alginate microcapsules validated by NMR-, CLSM- and AFM-imaging  
 AUTHOR(S): Zimmermann, H.; Hillgartner, M.; Manz, B.; Feilen, P.; Brunnenmeier, F.; Leinfelder, U.; **Weber, M.**; Cramer, H.; Schneider, S.; Hendrich, C.; Volke, F.; Zimmermann, U.  
 CORPORATE SOURCE: Arbeitsgruppe Tieftemperatur-Biophysik, Fraunhofer Institut für Biomedizinische Technik (IBMT), St. Ingbert, 66386, Germany  
 SOURCE: Biomaterials (2003), 24(12), 2083-2096  
 CODEN: BIMADU; ISSN: 0142-9612  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Cross-linked alginate microcapsules of sufficient mech. strength can immunoisolate cells for the long-term treatment of hormone and other deficiency diseases in human beings. However, gelation of alginate by external Ba<sup>2+</sup> (or other divalent cations) produces non-homogeneous crosslinking of the polymeric mannuronic (M) and guluronic (G) acid chains. The stability of such microcapsules is rather limited. Here, we show that homogeneous crosslinking can be achieved by injecting BaCl<sub>2</sub> crystals into alginate droplets before they come into contact with external BaCl<sub>2</sub>. The high **effectiveness** of this crystal gun method is demonstrated by confocal laser scanning microscopy and by advanced NMR imaging. Both techniques gave clear-cut evidence that homogeneous cross-linkage throughout the microcapsule is only obtained with simultaneous internal and external gelation. Atomic force microscopy showed a very smooth surface topog. for microcapsules made by the crystal gun method, provided that excess Ba<sup>2+</sup> ions were removed immediately after gelation. In vitro expts. showed greatly suppressed swelling for crystal gun microcapsules. Even alginate extracted from *Lessonia nigrescens* (highly biocompatible) yielded microcapsules with long-term mech. stability not hitherto possible. Encapsulation of rat islets, human monoclonal antibodies secreting hybridoma cells and murine mesenchymal stem cells **transfected** with cDNA encoding for bone morphogenetic protein (BMP-4) revealed that injection of BaCl<sub>2</sub> crystals has no adverse side **effects** on cell viability and function. However, the release of low-mol. weight factors (such as insulin) may be delayed when using alginate concns. in the usual range.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:425649 HCAPLUS  
 DOCUMENT NUMBER: 138:19965  
 TITLE: Gene transfer into eukaryotic cells  
 AUTHOR(S): **Weber, Martin**  
 CORPORATE SOURCE: QIAGEN GmbH, Hilden, Germany  
 SOURCE: Manufacturing of Gene Therapeutics (2002), 135-153.  
 Editor(s): Subramanian, G. Kluwer Academic/Plenum Publishers: New York, N. Y.  
 CODEN: 69CQVE; ISBN: 0-306-46680-5  
 DOCUMENT TYPE: Conference; General Review  
 LANGUAGE: English

AB A review describes the basic principles of the commonly used gene transfer methods for in vitro and in vivo applications, including the advantages and disadvantages of each of these technologies as well as their main

areas of applications. One of these approaches is based on naturally occurring viruses, in which gene transfer vectors are designed on the basis of a particular virus where the unneeded and dangerous genetic information of the virus has been deleted, and the genetic information which is to be introduced into the cell is incorporated into the virus structure to form the vector. Such vectors are mainly used in in vivo systems, and not very frequently in in vitro systems. The second approach for designing gene transfer vectors is based on nonviral systems, which includes classical nonviral **transfection** and advanced nonviral **transfection** technologies, and this is used equally often in in vivo and in in vitro systems.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:232757 HCAPLUS

DOCUMENT NUMBER: 137:342012

TITLE: Formation of cartilage matrix proteins by BMP-**transfected** murine mesenchymal stem cells encapsulated in a novel class of alginates

AUTHOR(S): Weber, M.; Steinert, A.; Jork, A.; Dimmler, A.; Thurmer, F.; Schutze, N.; Hendrich, C.; Zimmermann, U.

CORPORATE SOURCE: Department of Biotechnology, University of Wurzburg, Wurzburg, D-97074, Germany

SOURCE: Biomaterials (2002), 23(9), 2003-2013  
CODEN: BIMADU; ISSN: 0142-9612

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Proliferation and differentiation of wild-type, BMP-2 and BMP-4 **transfected** cells of C3H10T1/2, a mouse mesenchymal stem cell line that can differentiate into chondrocytes, were studied under monolayer (2D-) and encapsulation (3D-) conditions. Cells were encapsulated in a novel class of alginate. The alginate was of clin. grade (CG) because of complete removal of mitogenic and cytotoxic contaminants by chemical means. Compared to com. alginates used so far for encapsulation it was characterized by ultra-high viscosity (UHV; viscosity of a 0.1% w/v solution of about 20 cP). In contrast to monolayer cultures, proliferation of cells was prevented when the cells were encapsulated in UHV/CG alginate at the same suspension d. As revealed by immunohistochem. and quant. RT-PCR, **transfected** and wild-type monolayer cells showed synthesis of type I collagen after transfer into differentiation medium, while culture in an alginate scaffold resulted in an upregulation of type II collagen and other hyaline cartilage proteins. BMP-4 **transfected** cells produced considerably more type II collagen than BMP-2 **transfected** and wild-type cells. BMP-4 **transfected** cells were also characterized by type I collagen production up to Day 10 and exhibited transient alkaline phosphatase activity levels that were much higher than the peak values observed for the other two cell lines. The coincidence of the ALP peak values with downregulation of type I collagen in BMP-4 **transfected** cells suggested that C3H10T1/2 cells differentiate into chondrocytes via a chondroprogenitor-like cell.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:359454 HCAPLUS

DOCUMENT NUMBER: 135:865

TITLE: New technique to gene transfer in Eukaryonten cells

AUTHOR(S): **Weber, Martin**  
 CORPORATE SOURCE: Qiagen, Hilden, Germany  
 SOURCE: Nachrichten aus der Chemie (2000), 48(1), 18-23  
 CODEN: NACHFB; ISSN: 1439-9598  
 PUBLISHER: Wiley-VCH Verlag GmbH  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: German  
 AB A review with 2 refs. is given on viral and non-viral gene transfer methods, structure and synthesis of polyamidoamine (PAMAM)-dendrimers, **transfections** with PAMAM-dendrimers, non-liposomal lipids as 1st steps to synthetic viruses, and **transfections** with non-liposomal cationic lipids.  
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:275734 HCAPLUS  
 DOCUMENT NUMBER: 136:49197  
 TITLE: NF-Y binding is required for transactivation of neuronal aromatic l-amino acid decarboxylase gene promoter by the POU-domain protein Brn-2  
 AUTHOR(S): Dugast, C.; **Weber, M. J.**  
 CORPORATE SOURCE: CNRS UMR 5099, Laboratoire de Biologie Moleculaire Eucaryote, Toulouse, 31062, Fr.  
 SOURCE: Molecular Brain Research (2001), 89(1,2), 58-70  
 CODEN: MBREE4; ISSN: 0169-328X  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB We have previously characterized binding sites for the NF-Y transcription factor (-71/-52) and Brn-2 POU-domain protein (-92/-71) in the neuronal promoter of the human aromatic l-amino acid decarboxylase gene. We have now explored the functional role of these binding sites in **transfected** SK-N-BE neuroblastoma cells. Mutations of the NF-Y site that abolish binding depressed expression of a luciferase reporter gene up to 25-fold. The overexpression of a dominant neg. mutant of NF-YA subunit depressed expression by 60%. Promoter activity was increased by the overexpression of Brn-2. Mutations or deletion of the binding site of Brn-2 did not suppress transcriptional activation by overexpressed Brn-2, while promoters **defective** in NF-Y binding were not transactivated by Brn-2. A GST-pulldown experiment showed that recombinant human Brn-2 protein weakly interacts with recombinant NF-Y outside of DNA. Cooperative binding of recombinant NF-Y and GST-Brn-2 proteins on the neuronal promoter was evidenced by an electrophoretic mobility shift assay. The POU-domain of Brn-2 was sufficient for such interaction. The results thus suggest that the activation of the neuronal promoter of the aromatic l-amino acid decarboxylase gene requires a direct interaction between the ubiquitous NF-Y factor and a cell-specific POU-domain protein. The NF-Y, but not the Brn-2 binding site, is essential for the recruitment of the NF-Y/Brn-2 complex on the promoter.

REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:306368 HCAPLUS  
 DOCUMENT NUMBER: 131:126076  
 TITLE: Activated polyamidoamine dendrimers, a non-viral vector for gene transfer to the corneal endothelium  
 AUTHOR(S): Hudde, T.; Rayner, S. A.; Comer, R. M.; **Weber, M.**; Isaacs, J. D.; Waldmann, H.; Larkin, D. F.



CORPORATE SOURCE: P.; George, A. J. T.  
 Department of Immunology, Division of Medicine,  
 Imperial College School of Medicine, Hammersmith  
 Hospital, London, W12 0NN, UK  
 SOURCE: Gene Therapy (1999), 6(5), 939-943  
 CODEN: GETHEC; ISSN: 0969-7128  
 PUBLISHER: Stockton Press  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB We investigated the efficiency of activated polyamidoamine dendrimers, a new class of nonviral vectors, to **transfect** rabbit and human corneas in ex vivo culture. In addition to assessing the expression of a marker gene we have demonstrated that this approach can be used to induce the production of TNF receptor fusion protein (TNFR-Ig), a protein with therapeutic potential. Whole thickness rabbit or human corneas were **transfected** ex vivo with complexes consisting of dendrimers and plasmids containing lacZ or TNFR-Ig genes. Following optimization 6-10% of the corneal endothelial cells expressed the marker gene. Expression was restricted to the endothelium and was maximal after **transfection** with 18:1 (weight/weight) activated dendrimer:plasmid DNA ratio and culture for 3 days. The supernatant of corneas **transfected** with TNFR-Ig plasmid contained TNFR-Ig protein which was able to inhibit TNF-mediated cytotoxicity in a bioassay. We have therefore shown that activated dendrimers are an efficient nonviral vector capable of transducing corneal endothelial cells ex vivo. They may have applications in gene-based approaches aimed at prevention of corneal allograft rejection or in treatment of other disorders of corneal endothelium.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:437837 HCAPLUS  
 DOCUMENT NUMBER: 127:134521  
 TITLE: Transfer of genes for IL-10 and TGF- $\beta$  to isolated human pancreatic islets  
 AUTHOR(S): Deng, S.; Yang, Z. D.; Ketchum, R. J.; Kucher, T.;  
**Weber, M.**; Shaked, A.; Najj, A.; Brayman, K.  
 L.  
 CORPORATE SOURCE: Department of Surgery, University of Pennsylvania  
 Medical Center, Philadelphia, PA, 19104, USA  
 SOURCE: Transplantation Proceedings (1997), 29(4), 2206  
 CODEN: TRPPA8; ISSN: 0041-1345  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Fully exogenous DNA sequences were **effectively transfected** into isolated human islets in vitro by an adenoviral vector, as demonstrated by histol. evidence of a novel gene product within islet cells and by the in vitro production of immunomodulatory cytokines. Further, human islet viability and function were preserved following viral exposure and gene (marker or cytokine) transfer. Thus, a model has been developed using isolated islets bearing novel genes, to investigate the local delivery of agents, such as immunosuppressive cytokines, to modulate host immunoreactivity and **affect** graft survival.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:416104 HCAPLUS  
 DOCUMENT NUMBER: 127:76094

TITLE: IGF-I receptor signalling: lessons from the somatotroph

AUTHOR(S): Melmed, S.; Yamashita, S.; Yamasaki, H.; Fagin, J.; Namba, H.; Yamamoto, H.; **Weber, M.**; Morita, S.; Webster, J.; Prager, D.

CORPORATE SOURCE: Department of Medicine, Cedars-Sinai Research Institute-UCLA School of Medicine, Los Angeles, CA, 90048, USA

SOURCE: Recent Progress in Hormone Research (1996), Volume Date 1995, 51, 189-216  
CODEN: RPHRA6; ISSN: 0079-9963

PUBLISHER: Endocrine Society

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review, with 65 refs. Insulin-like growth factor 1 (IGF-I) is a major feedback regulator of pituitary GH secretion, with defined actions occurring at both the hypothalamus and pituitary. The IGF-I gene is expressed in the anterior pituitary in a GH-dependent manner thus providing for both endocrine- as well as autocrine-mediated GH regulation. In turn, IGF-I selectively and specifically inhibits GH gene transcription and secretion, its attenuating **effects** on nascent GH mRNA synthesis being demonstrable within 1 h. Binding of IGF-I to its pituitary cell surface receptor is followed by rapid activation of the intrinsic tyrosine kinase activity of the receptor  $\beta$ -subunit and phosphorylation of insulin receptor substrate 1 (IRS-1). Structure-function studies of the human IGF-I receptor were performed in stable, GH-secreting **transfectants** expressing either the cDNA encoding the wild-type (WT) human IGF receptor and exhibiting enhanced IGF-I responsiveness, or cDNAs encoding IGF-I receptor mutants and a truncated, kinase-deficient receptor (952STOP). 950Tyr situated on the submembrane receptor domain was found to be critical for transducing the IGF-I signal to the GH gene. IGF-I failed to suppress GH secretion by signaling endogenous rat IGF-I receptors when hybrid receptors were formed with kinase-deficient human receptors and rat hemi-receptors. This dominant neg. **effect** on hormone secretion was also evidenced when mitogenic IGF-I signals were blocked in vitro and in vivo by these hybrid receptors. Using similar doses of IGF-I, the IGF-I receptor cell **transfectants** also demonstrated ligand-dependent activation of ERKs in pituitary cells. In conclusion, the pituitary IGF-I receptor mediates the neg. feedback regulation of GH. Thus, IGF-I receptor mass may determine GH responses to malnutrition, pregnancy, and refeeding. IGF-I receptor mutations may also prove useful to abrogate the growth of IGF-I-dependent tumors. These structure-function studies of the human IGF-I receptor provide mechanistic insights into both metabolic control of the GH axis, as well as target tissue proliferative characteristics.

REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:349965 HCAPLUS

DOCUMENT NUMBER: 127:12859

TITLE: **Effects** of lipopolysaccharides on liposome-mediated **transfection** and the consequence for DNA preparation for gene therapy

AUTHOR(S): **Weber, Martin**; Moeller, Kathrin; Welzeck, Michaela; Schorr, Joachim

CORPORATE SOURCE: QIAGEN GmbH, Hilden, D-40724, Germany

SOURCE: Artificial Self-Assembling Systems for Gene Delivery, developed from Two Conferences, Wakefield, Mass., Sept. 28-29, 1995, and Washington, D. C., Oct. 10-11,

1995 (1996), Meeting Date 1995, 56-62. Editor(s):  
Felgner, Philip L. American Chemical Society:  
Washington, D. C.  
CODEN: 64KHA5

DOCUMENT TYPE: Conference; General Review  
LANGUAGE: English

AB A review with 12 refs. The suitability of different methods for preparation of plasmid DNA for liposome-mediated **transfection** was systematically investigated. The reporter plasmid, pRSVcat, was prepared using several methods and residual impurities in the prepns. were quantitated. **Transfection** with these prepns. was performed with several cell lines. **Transfection** efficiencies were determined by measuring chloramphenicol acetyltransferase expression. Higher **transfection** efficiencies were obtained with plasmid prepns. of higher purity (anion-exchange chromatog. or two rounds of CsCl-gradient centrifugation) than with prepns. of lower purity (silica-based DNA adsorption or one round of CsCl centrifugation). Moreover the results demonstrated, that increasing amts. of lipopolysaccharides in plasmid prepns. directly correlate with decreasing **transfection** efficiencies. The results support the necessity to use endotoxin free DNA for gene therapy expts. and LPS sensitive cell lines.

L32 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:977808 HCAPLUS

DOCUMENT NUMBER: 124:50123

TITLE: **Effects of lipopolysaccharide on transfection efficiency in eukaryotic cells**

AUTHOR(S): **Weber, Martin; Moeller, Kathrin; Welzeck, Michaela; Schorr, Joachim**

CORPORATE SOURCE: QIAGEN GmbH, Hilden, Germany

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AB The suitability of different purification methods for preparation of plasmid DNA for

**transfection** into eukaryotic cells was systematically investigated. The reporter plasmid, pRSVcat, was prepared using several methods, and residual impurities in the prepns. were quantitated. **Transfection** with these prepns. was performed with several cell lines (HeLa, Huh7, COS7 and LMH) and two **transfection** methods: liposome-mediated and calcium phosphate **transfection**. **Transfection** efficiencies were determined by measuring chloramphenicol acetyltransferase expression. Higher **transfection** efficiencies were obtained with plasmid prepns. of higher purity (those prepared by anion-exchange chromatog. or two rounds of CsCl-gradient centrifugation) than with prepns. of lower purity (those prepared using a silica-based DNA adsorption method or a single round of CsCl centrifugation). The results also demonstrated specifically that increasing concns. of lipopolysaccharides in plasmid prepns. directly correlate with decreasing **transfection** efficiencies.

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TITLE: **Hepadnavirus P protein utilizes a tyrosine residue in the TP domain to prime reverse transcription**

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AB Hepadnavirus DNA minus strands are covalently linked at their 5' terminus to the viral P gene product, which has been taken to indicate that the hepadnaviral polymerase polypeptide itself also functions as a protein primer for initiating reverse transcription of the RNA pregenome. The present study confirms this indication by identifying the nucleotide-linked amino acid in the P protein sequence of the duck hepatitis B virus (DHBV). In a first set of expts., mutational anal. of three phylogenetically conserved tyrosine residue sin the DNA terminal (TP) domain indicated that of these, only tyrosine 96 was essential for both viral DNA synthesis in **transfected** cells and priming of DNA synthesis in a cell-free system. This assignment was confirmed by direct biochem. anal.: tryptic peptides from the DHBV P protein, 32P labeled at the priming amino acid by the initiating dGTP and addnl. labeled internally by [35S]methionine, were isolated and analyzed in parallel to reference peptides synthesized chemical and 33P labeled by a tyrosine kinase. Mobility in high-performance liquid chromatog., as well as the release in stepwise amino acid sequencing of phospholabel and of [35S]methionine, identified the priming amino acid unequivocally as the tyrosine in the sequence 91KLSGLYQMK99, which is located in the center of the TP domain. Conserved sequence motifs surrounding Tyr-96 allow the prediction of the priming tyrosine in other hepadnaviruses. Weak sequence similarity to picornavirus genome-linked polypeptides (VPgs) and similar gene organization suggest a common origin for the mechanisms that use protein priming to initiate synthesis of viral DNA genomes or RNA genomes from an RNA template.

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